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Applicant: **John S. Brown, et al.**

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Group Art: **3627**

Title: **METHOD AND APPARATUS
FOR TRACKING FIXED ASSETS**

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**DECLARATION UNDER 37 C.F.R. 1.131 OF JOHN S. BROWN,
DIANA SINOR, AND DILIP J. PATEL**

Sir:

We, John S. Brown, Diana Sinor, and Dilip J. Patel, hereby declare as follows:

1. We are the inventors of the subject matter claimed in the above-identified patent application.

2. We have been informed that U.S. Patent Publication No. 2003/0195780 to Arora et al. (hereinafter Arora) has been cited as prior art by the United States Patent and Trademark Office with respect to the above-identified patent application. We also have been informed that the earliest possible effective prior art date of Arora is no earlier than December 13, 2001.

3. This declaration is being submitted to establish conception and reduction to practice of the invention claimed in claims 1-16 and 18-21 of the above-identified application in the United States prior to December 13, 2001.

4. Prior to December 13, 2001, we had conceived of and developed (i.e., reduced to practice) a working software program that met all of the limitations of claims 1-16 and 18-21 of our patent application, as more particularly detailed below.

5. Exhibit A attached hereto is a copy of the Business Requirements for the project that resulted in the present invention. The date on the document has been redacted. However, it is prior to December 13, 2001 and accurately reflects the date of the document.

6. Exhibit B attached hereto is the Program Functional Specification for the present invention prepared by one or more of the named inventors describing the relevant software as it existed on the date of the document preparation. The document includes several dates that have been redacted, including a creation date at the top of page 1 and then the date on which it was reviewed and approved by each of the eight people listed at the bottom of the last page. The dates on the document have been redacted. However, all dates are prior to December 13, 2001 and accurately reflect the true dates of the corresponding creation or review.

7. Exhibit C attached hereto is the Program Functional Specification for the error correction facility portion for software that had to interface with the software of the present invention. Exhibit C. The dates on the document have been redacted. However, all dates on the document, including the date listed under "Last Changed By" are prior to December 13, 2001. Under the heading "Capitalizations, including Posting to WIP", you will find a list of tax location fields. These fields were added to the facility as a result of the new errors produced by

the tax location program that had to be corrected. Similar fields can be found in the "Transfers Screen" section which follows the capitalization section.

8. A program in accordance with the Program Functional Specification (Exhibit A) was coded immediately after the document was completed and the software passed testing shortly thereafter. All of these events occurred prior to December 13, 2001.

9. Exhibit D attached hereto is a memorandum prepared by co-inventors Diana Sinor (maiden name Diana Hill) and John S. (Sim) Brown concerning the development of the invention disclosed and claimed in the above-identified patent application. The dates appearing on the original of this document have been redacted from the copy attached hereto. However, every redacted date is prior to December 13, 2001. Software in accordance with the invention claimed in this application had been developed and deployed for its intended purpose prior to the preparation of this document.

10. The present application discloses a method and apparatus for determining the tax location of a capitalized fixed asset. In particular, in accordance with one embodiment, when a transaction concerning a particular asset is recorded, the transaction record is provided to the tax location finder module. The tax location finder module runs through a hierarchical sequence of queries of the information assigned to the asset. In each query, the tax location finder module checks to determine if the data assigned to the asset meets a set of criteria that helps indicate a particular routine (or audits) that will probably be able to derive the tax location of the asset. Such criteria typically might comprise conditions that indicate the type of asset (e.g., manufacturing equipment/real estate/furniture), the name of the assets use (e.g., internal/customer-site/loaner/vendor-site), and/or the building, employee, or cost center to which the asset is assigned. If the data associated with the asset meets the set of criteria for a particular audit, then that audit routine will be called. If the asset does not meet the query criteria for an audit, then the software will continue on to

the next sequential query until it encounters a query whose criteria it meets. Each audit is customized to the asset or transaction qualities that caused it to meet the criteria for calling that audit. The called audit attempts to derive the location of the asset. If the audit routine discover sufficient data to derive a tax jurisdiction code, then the derived tax jurisdiction code is passed back. If not, the transaction record is sent to an error correction facility where it may be manually researched and corrected. One or more of the audit routines may be designed to return the record transaction back to the hierarchy of queries if the audit fails for certain reasons.

11. We conceived and reduced to practice the invention claimed in claims 1-21 of the above-identified patent application prior to December 13, 2001. All of Exhibits A, B, C, and D accurately reflect or discuss software that had been actually developed and written prior to December 13, 2001.

12. The attached claim table maps the claims element-by-element to the evidence submitted herewith.

CLAIM TABLE

Claim Recitation	Exemplary Corresponding Disclosures in Exhibits
1. A method of tracking the location of capitalized fixed assets for tax and/or insurance reporting purposes, said method comprising the steps of:	Exhibit D, page 2, lines 10-16.
(1) detecting when a capitalized fixed asset is involved in a transaction;	Exhibit D, page 2, lines 19-20.
(2) responsive to such a detection in step (1), running data for said asset through a plurality of queries, each query designed to determine if said asset meets a set of criteria indicative of a category of how a location of said asset for tax and/or	Exhibit D, page 2, lines 19-22.

insurance reporting purposes may be determined;	
(3) if, in step (2), said asset meets said set of criteria corresponding to one of said queries, running data corresponding to said asset through an audit customized to said corresponding category to determine a location of said asset for tax and/or insurance reporting purposes;	Exhibit D, page 2, lines 23-25.
(4) if, in step (3), a location is determined, assigning said determined location to said asset for tax and/or insurance reporting purposes;	Exhibit D, page 2, lines 23-25.
(5) if, in step (3), a location for tax and/or insurance reporting purposes is not determined issuing an error notification; and	We were unable to readily find actual error codes and descriptions directly demonstrating this claim feature. However, it was incorporated in the inventive software as reduced to practice and actually implemented prior to December 31, 2001. Exhibit C is indirect evidence of this; particularly the sections entitled "Capitalization including Postings to WIP" and "Transfer Screen". As described above in paragraph 7, these sections of Exhibit C reflect changes that were made to software that interfaced with the inventive software in order to be compatible with error codes generated by the present invention in accordance with this feature of the invention.
(6) if, in step (2), if said data for said asset does not meet said criteria of any of queries, issuing an error notification.	Exhibit D, page 2, lines 23-25.
2. The method of claim 1 wherein, in step (2), each of said sets of criteria comprises at least one criterion to which said data for said asset must match.	Exhibit D, page 2, lines 20-21.
3. The method of claim 2	Exhibit D, page 2, lines 21-22.

wherein, in step (2), said data for said asset is run through said plurality of queries hierarchically, wherein, when said asset meets said set of criteria of a particular query, said asset data is not run through any queries ordered lower in said hierarchy.	
4. The method of claim 3 wherein said transaction comprises a transfer or capitalization.	Exhibit D, page 2, lines 14-16.
5. The method of claim 3 wherein said error notification issued in step (5) indicates that the asset met said set of criteria corresponding to one of said categories, but was not assigned a location for tax and/or insurance reporting purposes.	See claim 1, step (5) discussion in this table.
6. The method of claim 5 wherein said error notification issued in step (5) further indicates which of said at least one criterion caused said error.	See claim 1, step (5) discussion in this table.
7. The method of claim 5 wherein said error notification issued in step (6) indicates that said asset data did not meet said criteria corresponding to any category.	Exhibit D, page 2, lines 23-25.
8. A computer readable product embodied on computer readable media readable by a computing device for tracking the location of capitalized fixed assets for tax and/or insurance reporting purposes, said product comprising computer executable instructions for:	Exhibit D, page 2, lines 10-16.
(1) interfacing with external software to become aware of when a capitalized fixed asset is involved in a transaction;	Exhibit D, page 2, lines 19-20.
(2) responsive to such a detection in step (1), accessing data	Exhibit D, page 2, lines 19-22.

for said asset and running said data through a plurality of queries, each query designed to determine if said asset meets a set of criteria indicative of a category of how a location of said asset for tax and/or insurance reporting purposes may be determined;	
(3) if, in step (2), said asset meets said set of criteria corresponding to one of said queries, running data corresponding to said asset through an audit customized to said corresponding category to determine a location of said asset for tax and/or insurance reporting purposes;	Exhibit D, page 2, lines 23-25.
(4) if, in step (3) a location is determined, assigning said determined location to said asset for tax and/or insurance reporting purposes;	Exhibit D, page 2, lines 23-25.
(5) if, in step (3), a location is not determined issuing an error notification; and	
(6) if, in step (2), if said data for said asset does not meet said criteria of any of queries, issuing an error notification.	Exhibit D, page 2, lines 23-25.
9. The computer readable product of claim 8 wherein instruction (4) further comprises instructions for transmitting said determined location for tax and/or insurance reporting purposes to said external software.	Exhibit B, page 1, third paragraph, beginning with "Based on Input fields, location ...".
10. The computer readable product of claim 8 wherein, in instruction (2), each of said queries comprises at least one criterion to which said data for said asset must match.	Exhibit D, page 2, lines 20-21.
11. The computer readable	Exhibit D, page 2, lines 21-22.

product of claim 10 wherein, in instruction (2), said data for said asset is run through said plurality of queries hierarchically, wherein, when said asset meets set of criteria of a particular query, said asset data is not run through any queries ordered lower in said hierarchy.	
12. The computer readable product of claim 11 wherein said transaction comprises a transfer or capitalization.	Exhibit D, page 2, lines 14-16.
13. The computer readable product of claim 11 wherein said error notification issued by instruction (5) indicates that the asset met said set of criteria corresponding to one of said categories, but was not assigned a location for tax and/or insurance reporting purposes.	See claim 1, step (5) discussion in this table.
14. The computer readable product of claim 13 wherein said error notification issued by instruction (5) further indicates which of said at least one criterion caused said error.	See claim 1, step (5) discussion in this table.
15. The computer readable product of claim 13 wherein said error notification issued by instruction (6) indicates that said asset did not meet said criteria corresponding to any category.	Exhibit D, page 2, lines 22-25.
16. The computer readable product of claim 8 wherein instruction (1) comprises detecting a call from said external software.	Exhibit B, page 2, third paragraph, beginning with "Based on Input fields, location ...".
18. The computer readable product of claim 8 wherein instruction (3) comprises accessing said data corresponding to said asset from at	Exhibit D, page 2, lines 14-20.

least one of a database and a transaction record received from said external software.	
19. A computer system having at least one memory for storing data	Inherent
and at least one central processing unit for executing instructions,	Inherent
said memory storing at least one database containing data about a plurality of capitalized fixed assets,	Exhibit B, See, e.g., page 3, line 1, under heading "Interim Location Derivation Process" line that reads "Read Warehouse Owner Table by Warehouse number and Country Code as key."
said central processing unit adapted to track the location of capitalized fixed assets for tax and/or insurance reporting purposes,	Exhibit D, page 2, lines 10-16.
said computer system comprising means for recording transactions relating to capitalized fixed assets, said system further comprising:	Exhibit D, page 2, lines 19-20.
means for interfacing with external software to become aware of when a capitalized fixed asset is involved in a transaction;	Exhibit D, page 2, lines 19-20.
means responsive to said detection for accessing data for said asset and running said data through a plurality of queries, each query designed to determine if said asset meets a set of criteria indicative of a category of how a location of said asset for tax and/or insurance reporting purposes may be determined;	Exhibit D, page 2, lines 19-22.
means for running data corresponding to said asset through an audit customized to said corresponding category to determine a location of said asset for tax and/or insurance reporting purposes, if said asset meets said set of criteria corresponding to one of said queries;	Exhibit D, page 2, lines 23-25.


means for assigning said determined location to said asset for tax and/or insurance reporting purposes and transmitting said determined location to said controller software, if a location is determined;	Exhibit D, page 2, lines 23-25.
means for issuing an error notification, if a location is not determined; and	Exhibit D, page 2, lines 23-25.
means for issuing an error notification if an asset type is not determined for said asset.	Exhibit D, page 2, lines 23-25.
20. The computer system of claim 19 wherein each of said queries comprises at least one criterion to which said data for said asset must match.	Exhibit D, page 2, line 21.
21. The computer system of claim 20 wherein said data for said asset is run through said plurality of queries hierarchically, wherein, when said asset meets set of criteria of a particular query, said asset data is not run through any queries ordered lower in said hierarchy.	Exhibit D, page 2, lines 21-22.

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13. As the persons signing below, we each hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code, and that such willful statements may jeopardize the validity of the application or any patent issued thereon.

3/26/2009
Date


John S. Brown

Date

Dilip J. Patel

Date

Diana Sinor

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Date

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3/26/09

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Page 11

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Date

John S. Brown

Date

Dilip J. Patel

Date

^{del}
3/28/2009

Diana Sinor
Diana Sinor

EXHIBIT A

TAX LOCATION ASSIGNMENT REQUIREMENTS

Created By: Diana G Hill on [REDACTED] at 12:11 PM
Last Changed By: Sim Brown on [REDACTED] at 06:33 PM
Category: Requirements - US
Sub Category: Tax Location Assignment
System Component: Controllers\Capitalizations

Redacted

Contact Listing

- PI: Sim Brown
- SI: Dilip Patel
- AD:

I. OVERVIEW

Determining an asset's location probably seems like a simple and rather insignificant matter on the surface. After all, it should be as easy as asking the asset owner to report the asset's location at the time of its purchase and capitalization or transfer. However, IBM's asset tracking systems have traditionally been maintained separately from their requisition, capitalization and transfer functions. This separation of functions has historically prevented the requester from identifying the asset's intended owner much less its final destination. As a result of this system limitation, the asset system architects have been forced to resort to a rather convoluted and confusing series of defaults to determine an asset's location. These defaults, although fairly comprehensive, have often resulted in invalid asset location assignments.

The significance of these erroneous assignments is not apparent if you consider the situation from a purely accounting perspective. After all, the most important piece of inventory information is the asset owner's serial number not the physical location of the asset. However, the asset's location is easily the most significant piece of tax information maintained within our asset system. The asset's location is used when calculating State Income Tax, Personal Property Tax, Sales Tax, Use Tax and various franchise taxes. Since the right to tax citizens within the US is a right that was originally given exclusively to the states and municipalities, our tax law varies extensively from state to state, even from city to city. An erroneous tax location assignment can easily result in the overpayment of any number of taxes. As such, it is crucial that the next release of our asset system include a commitment to deriving and maintaining the highest quality of location information available given the limitations of our requisition systems.

IBM's requisition systems and methodologies vary depending on the type of equipment that is being ordered and the division placing the order. These requisition systems are not standardized especially when considering the type of information the requesters are asked to provide. Some requisition tools require the requester to enter an IBM customer number and very little additional information. Other tools ask the requester to enter ship to information and their employee serial number as well as their IBM customer number. In some cases, the IBM customer number is not required at all. Instead, the requisition tool relies on the requester to enter shipping and billing account information. Due to the variety information being solicited at the time the order is placed it is impossible to develop a single, comprehensive approach to tax location assignment. Instead the challenge has been to derive the tax

location based on the most reliable piece of location information provided on the record.

In response to this challenge, the current system architects focused their efforts on developing a derivation process based on direct asset owner input rather than attempting to derive the asset's location during the capitalization process. Since this input could not be solicited at the point of requisition, the developers designed a back end process based on asset owner input from the Property Control Facility (PCF). The Property Control Facility's functionality is based almost entirely on asset owner input. As such, requesting location information from the asset owners was a simple matter of adding a notifier to the system. After an asset is capitalized and reported to the Property Control Facility, a notifier is sent to the asset owner soliciting information regarding the asset's location. Once the asset owner inputs the location information, the updated information is loaded to the PCF Register Table. This table is the primary source of input for the current tax location derivation program (CR07).

From a purely theoretical stand point, the tax location methodology laid out by the previous system architects should result in the most reliable tax location assignment available because it is based on the asset owner's input. In practice, though, this strategy has proven to be unreliable and inconsistent. There are a number of reasons why the current tax location strategy has not delivered the expected results. These reasons range from timing variances to invalid asset owner assignments. However, the single most pervasive problem in obtaining a valid tax location using the current tax location assignment strategy is simply lack of asset owner input. In short, when the asset owners receive notifiers from the Property Control Facility asking for location information, the majority of them simply do not respond. When the requested location information updates are not made, the location information must be derived.

The current tax location derivation program (CR07) is based on a hierarchy of defaults. This default tax location information is prioritized in order of its perceived reliability. The default hierarchy is applied to all assets regardless of asset type or capitalization source. Under this system, for example, facility number is considered the most reliable piece of tax location information for everything from buildings to data processing equipment. On its face, this assumption does not seem problematic. However, when considering the various tracking and capitalization methodologies used for buildings versus data processing equipment, it is obvious that assigning a single tax location methodology to be applied to all types of equipment will invariably result in erroneous tax location assignments.

Faulty default logic is not the only problem associated with the current tax location derivation program. In addition to establishing a single hierarchy of location information for all asset types, the program also bases this hierarchy on the false assumption that the Property Control Facility is the most reliable source of location information for all types of equipment. Although a rational argument could be made to support this assumption for most types of equipment, data processing equipment, specifically, has traditionally been tracked on the AAS asset management system. The AAS asset management system tracks all data processing equipment ordered internally. This system is used for property control, but its primary function is parts maintenance, warehouse administration and account billing. The additional functionality provided by the AAS asset management system is critical to the business; as such, updating asset information on AAS is often more important to IBM's internal customers than updating the same information on PCF. Considering the customers' priorities, an argument could easily be made that the AAS asset management system is likely to have the most updated location information on internally procured data processing equipment. Since the current tax location derivation program places more emphasis on information from the Property Control Facility than AAS, it is clear that the tax location assignments of internally procured data processing equipment are questionable under the existing methodology.

In addition to the questionable tax location assignment of internally procured data processing equipment, the current tax location derivation program has another, more significant flaw. The program's assumption that the Property Control Facility is the most reliable source of location information is based on the invalid conclusion that asset owner's usually respond to the system notifier requesting location information. History has shown that this conclusion is false. The majority of asset owners do not respond to the system notifier requesting location information, as a result the Property Control Facility is never updated with location information from the asset owner. Without updated information from the Property Control Facility, the fields on the PCF Register that generate the tax location assignment remain blank. When the current tax location derivation program encounters blanks in these key fields, it often resorts to assigning the tax location based on a default location assigned at the

division level. This default division logic does not take into consideration any of the tax location information that may have been available at the time of capitalization. As a result, the existing tax location methodology's reliance on information from the Property Control Facility often results in a default tax location assignment that is less accurate than the tax location that could have been established at the point of capitalization.

Realizing that the current tax location methodology does not take advantage of all of the information available at the point of capitalization, the system architects have proposed an alternate tax location strategy to optimize the use of this information. The strategy is fairly simple. In short, the system architects are proposing that the tax location be derived at the point of capitalization, establishing the most reliable default value available. After the asset is capitalized and the default tax location is established, the asset owner will still have the ability to update the location information if they choose to. Moving the default tax location derivation process to the initial capitalization phase allows the system architects to customize the default assignment process for different types of equipment from different capitalization sources. By customizing the tax location derivation strategy by asset type and capitalization source, the system architects afford the tax customers the ability to assess what is the most valuable piece of tax location information available and base the default assignment on that information. As a result, the default tax location assignment is based on the highest quality of tax location information available at the point of capitalization, eliminating the need for generic default logic based on the asset's division.

In addition to the elimination of division level default logic, the introduction of this new tax location methodology will insure that every asset has a valid tax location assigned to it at the point of capitalization. This assurance may seem an obvious result of any well developed tax location strategy. However, the current tax location strategy was unable to achieve one hundred percent tax location assignment even considering the six levels of defaults it employed. Its failure to meet this goal resulted in approximately two thousand assets annually that had to be manually assigned a tax location at year end. This manual assignment process was both time consuming and somewhat unreliable. With the adoption of the new tax location methodology this tax exposure will be resolved and the need to establish the most reliable default tax location available will be addressed.

II. DATA PROCESSING EQUIPMENT

A. INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT

I. CAPITALIZATIONS

There are four different capitalization sources for internally manufactured data processing equipment - ICF, FDS, WIP and MTC. Each of these sources provides unique location information at the point of requisition. ICF and FDS, for example, rely on customer number information for location derivation. While WIP and MTC capitalizations provide IBM employee serial number information that could be used for location derivation. When presented with these varied pieces of location information, our panel of tax representatives selected customer number as the most reliable piece of location information for capitalizations of data processing equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location derivation strategy for internally manufactured data processing equipment is fairly simple. Based on the IBM customer number provided on the inbound capitalization record, the state/city/county code should be extracted from the SAADB.MINICMR Table. This code will need to be converted to the associated TAXWARE code prior to posting to the Asset Master Record. The SAP Asset System will convert the state/city/county code to the TAXWARE code by making a call against the TAXCALC to TAXWARE mapping table (see SYSTEM REQUIREMENTS for specific information on this table).

The tax location derivation strategy as outlined above is based on the assumption that the SAADB.MINICMR

table can be loaded on to the SAP Asset System. If this table proves to be too large to load, a secondary strategy might be considered. This alternative tax location derivation strategy would still be based on the IBM customer number provided on the inbound capitalization record. However, rather than extracting the state/city/county code from the SAADB.MINICMR Table, the TAXWARE code would be retrieved directly from the Market Place Profile database (see EXTERNAL DEPENDENCIES for specific information on this database).

b. EXTERNAL DEPENDENCIES

i. MARKET PLACE PROFILE (MPP)

The goal of the Market Place Profile Project is to create a worldwide customer database that includes all IBM internal and external customers currently assigned an IBM customer number. The database is expected to house customer information similar to the information currently maintained on the US SAADB.MINICMR Table with one significant difference. The MPP database will list the tax location code used by the TAXWARE program whereas the SAADB.MINICMR's "locationcode" field contains the state/city/county code used by the TAXCALC program.

As part of this project all of IBM's current customers will receive a new customer number. However, the MPP database will track both the new customer number and the original customer number from the SAADB.MINICMR Table. This feature of the MPP database will allow the system architects to build a mapping table between the current state/city/county code and the TAXWARE code by joining on the original IBM customer number.

This TAXCALC to TAXWARE mapping table is essential for yearend conversion of the US assets' tax location information. This tax location information is maintained on the SAADB.TLOCATION_W table and will need to be loaded on the Asset Master Record of every US asset that is converted.

In addition to conversion concerns, the TAXCALC to TAXWARE mapping table will be needed to derive the tax location code for internally manufactured data processing equipment. The strategy for deriving the tax location of this type of equipment involves extracting address information and the current state/city/county code from the SAADB.MINICMR table. Prior to posting the tax location code to the Asset Master Record, the state/city/county code will need to be converted to the TAXWARE code.

c. SYSTEM REQUIREMENTS

i. TAXCALC TO TAXWARE MAPPING TABLE

As described above, the TAXCALC to TAXWARE Table is needed to convert the state/city/county code housed on the current SAADB.MINICMR Table into a TAXWARE code that will be maintained on the Asset Master Record.

EXAMPLE TABLE:

Original Customer Number	MPP Customer Number	State/City/County Code	TAXWARE Code
4619803	4567890	907865123	050130040
6292159	1234567	051234890	101210080
0011612	9876543	564312089	040371900

FIELD DERIVATION MATRIX:

Field Name	Derivation
Original Customer Number	Based on Feeder Input Record
MPP Customer Number	Derived from the MPP Table; Based on the Original Customer Number
State/City/County Code	Derived from the SAADB.MINICMR Table; Field Name = Location Code
TAXWARE Code	Derived for the MPP Table; Based on the Original Customer Number

OPEN ISSUE:

In cases where an asset is being maintained at a location not currently listed on the SAADB.MINICMR Table, the SAP Administration Team will need a contact in the SUT Department whose has access to the on-line TAXWARE program. The SAP Administration Team will provide the SUT Department with the new address and it will be the SUT Department's responsibility to provide the correct tax location code. The representative from the SUT Department will need to assign both a state/city/county code and an associated TAXWARE code to the new address so that the SAP Administration Team can add the necessary entry to the TAXCALC to TAXWARE Mapping Table.

ii. CUSTOMER NUMBER TABLE

The Customer Number Table is necessary in order to derive the building number associated with the asset's IBM internal customer number. This building number assignment is required for all IBM internal assets in order to satisfy insurance and federal income tax reporting requirements.

EXAMPLE TABLE:

Country	Original Customer Number	Responsible Cost Center	Building Number	TAXWARE Code
US	4619803	RKA	PLD0501	050130040
US	6292159	9FP	PLB861	101210080
US	0011612	79Q	RPL676	040371900

FIELD DERIVATION MATRIX:

Field Name	Derivation
Country	Hardcoded to 'US'
Original Customer Number	Based on Feeder Input Record
Responsible Cost Center	Derived from the SAADB.MINICMR Table; Field Name = Dept
Building Number	*Input by SAP Table Administrator; Input = Work Location Concatenated with the RE/SO Building Number
TAXWARE Code	Extract the State/City/County Code from the SAADB.MINICMR Table; Field Name = Location

	Code. Use this value to map to the TAXWARE Code based on the TAXCALC to TAXWARE Mapping Table.
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OPEN ISSUE:

The RE/SO Building Number (ex. 676) is currently maintained in any one of four address fields included on the SAADB.MINICMR table. Since the building information is not housed in a standard location on the table, it cannot be automatically derived. As such, the SAP Administration Team must look up each new customer number on the SAADB.MINICMR to determine the RE/SO Building Number. Once they have identified the RE/SO Building Number, they must access Worldwide RE/SO Building Database (see EXTERNAL DEPENDENCIES for Transfers) to locate the associated work location. This process is extremely manual, but the SAP Administration Team has agreed to accept this responsibility if an automated solution cannot be found. In order to facilitate this manual process, the SAP Administration Team has requested that the spool list for the automated job that loads the Customer Number Table (currently job # BW07) be updated to produce a listing of all new customer numbers added during the load. The SAP Table Administrator will use this listing to identify which customer numbers have been added so that their building information can be updated in a timely manner.

2. TRANSFERS

There are three different transfer feeders for internally manufactured data processing equipment - PCF, AST, and MTT. The tax location information included on both PCF and MTT varies with each transfer. In some cases, the tax location information may include customer number, building number and/or IBM employee serial number. Because the tax location information is not consistent our panel of tax representatives selected a tiered tax location strategy. This tax location strategy is designed to look for customer number updates as the primary source for tax location derivation and use IBM employee serial number as a secondary source.

As for AST transfers, these transfers are keyed by changes in the AAS Status Code. These transfers are limited to specific changes in the AAS Status Code that indicate that the equipment has been returned to the plant. When such a change is reported by the AST feed, a tax location transfer is initiated to reflect the asset's new location at the plant.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The first tier of the transfer tax location strategy for internally manufactured data processing equipment mirrors the tax location strategy for capitalizations. Based on the IBM customer number associated with the asset's new location, the tax location is derived by extracting the state/city/county code from the SAADB.MINICMR Table. This state/city/county code is then mapped to the TAXWARE code it is paired with on the TAXCALC to TAXWARE Mapping Table. This TAXWARE code is posted to the Asset Master Record overwriting the previous TAXWARE code that was assigned to the asset. In addition to deriving the TAXWARE code associated with asset's new location, the building number of that new location must also be derived. Again, the derivation strategy for IBM building assignment is the same process used for establishing the original IBM building number at the point of capitalization. The IBM customer number on the transfer input record is used to make a call against the Customer Number Table. This table contains a mapping of the original IBM Customer Number to the IBM building number. The new building number is extracted from the table and posted to the Asset Master Record. The second tier of the tax location strategy for transfers of internally manufactured data processing equipment is based on the IBM employee serial number the asset is being transferred

to. The IBM employee serial number is extracted from the transfer input record. This serial number is used to make a call against the Worldwide RE/SO Building Database (see EXTERNAL DEPENDENCIES for specific information). The database provides both the TAXWARE code and the IBM building number that are associated with the base

IBM employee serial number. This information is then posted to the Asset Master Record overwriting the outdated tax location code and building number. Finally, there is a unique tax location strategy associated with AAS Status Code changes reported in the AST feed. This feed tracks changes in the AAS Status and Function Code Table from one month to the next. One of the fields maintained on this table is the AAS Status Code. This code identifies changes

in the asset's use as well as its location. The updated AST requirements include a change to the current AST feed logic. The new logic that will be employed in SAP Release 2.2 requires the feed to report changes in the AAS Status Codes for

all assets listed on the AAS Status and Function Code Table. When an asset's AAS Status Code changes to '80', '82', '83', or '84', that signifies that the asset is no longer in use and it has been returned to the plant. These returns are

eligible for both PPT and SUT exemptions; as such, they need to be identified and reported in the outbound PPT and SUT feeds. The following logic is employed to uniquely identify these assets:

If an asset's AAS Status Code changes to an '80', '82', '83', or '84', the PCF Usage Code on the Asset Master Record should be updated to a '15' to reflect that the asset is now in storage. In addition, the AAS Status Code on the Asset Master Record should be overwritten with the new status of '8x'. Finally, the tax location of the asset should be amended to identify its new location at the plant. In order to update the tax location, the following derivation process must be used: extract the 'PLANT_OF_CONTROL' from the SAADB.STAT_FUNC Table; use this value to make a call against the Plant of Control Table (see SYSTEM REQUIREMENTS for a complete description of this table); from the Plant of Control Table derive the IBM building number and the TAXWARE code associated with the plant location; post the updated TAXWARE code and IBM building number to the Asset Master Record.

b.EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

This database is a listing owned by RE/SO and maintained on Lotus Notes. It contains a record of all inactive and active buildings owned or leased by IBM on a worldwide basis. The database houses a wide variety of information on each building including the building's address, the building's use, the work location of the building, whether it is owned or leased, lease information for leased locations, the responsible division, the inactive or active status of the building as well as the date the status of the building changed. In addition to maintaining this information, the owner of the database, John E. Miller in RE/SO, has agreed to add a new field to the database that will house the TAXWARE code associated with the location of each building. This agreement by the database owner is critical to our tax location strategy. Every type of asset that bases its tax location derivation on the IBM employee serial number will be making a call against Worldwide RE/SO Building Database to retrieve the IBM building number and the associated TAXWARE code.

ii.IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

In addition to its Worldwide Building Database, the RE/SO organization is in the process of mapping the physical location of every IBM employee to an existing IBM facility. This information is currently being maintained on an MVS/DB2 platform on a site by site basis. The database owner, John E. Miller, has indicated that the employee information will be added to the existing Worldwide RE/SO Building Database on Lotus Notes by yearend 2000. At this time, he suggested that all of the Americas would be on this integrated database and the EMEA would be migrated to this platform sometime in 2001. The timing of inclusion of the IBM employee location information is critical to our project. Since our strategy is predicated on the ability to match the IBM

employee serial number on the input records against the Worldwide RE/SO Building Database, RE/SO's failure to integrate the IBM employee information into their database by yearend 2000 would invalidate 90 percent of our tax location derivation efforts. Because of our obvious dependency on RE/SO's efforts, the SAP Administration Team's Management has asked that the SI Team obtain a Document of Understanding from the RE/SO management in support of our project.

iii. MARKET PLACE PROFILE (MPP)

As with capitalization of internally manufactured data processing equipment, the tax location derivation strategy for transfers of this type of equipment is dependent upon the Market Place Profile Worldwide Customer Database Project. The dependency upon this external project is explained in detail under the CAPITALIZATIONS - EXTERNAL DEPENDENCIES portion of this sub topic.

c. SYSTEM REQUIREMENTS

i. PLANT OF CONTROL TABLE

The Plant of Control Table is required in order to derive the tax location of internally manufactured equipment that has been returned to the plant. This table uses the 'PLANT_OF_CONTROL' value from the SAADB.STAT_FUNC Table to derive the associated IBM building number and TAXWARE code.

EXAMPLE TABLE:

Country	Plant	Name	Building	TAXWARE Code
US	983	San Jose	PLD050	050130040
US	988	Raleigh	RPL202	040371900
US	992	Endicott	PLE041	201340987

FIELD DERIVATION MATRIX:

Field Name	Derivation
Country	Hardcoded to 'US'
Plant	Derived from SAADB.STAT_FUNC Table where the Field Name = PLANT_OF_CONTROL
Name	Input by SAP Table Administrator
Building	Input by SAP Table Administrator based on contact with the PPT Department
TAXWARE Code	Input by Table Administrator based on the Building Number by referencing the Worldwide RE/SO Building Database

OPEN ISSUE:

The Plant of Control Table is being maintained as part of the current SAP Release. This table contains basically the same information as the information that will be required in SAP Release 2.2. The two major exceptions are that the table includes facility number rather than building number and the state/city/county code

rather than the TAXWARE

code. This information will need to be converted to facilitate the initial set up of the Plant of Control Table. Since the current table only has eight entries, the initial set up of the Plant of Control Table will require only a minimal effort. It is mentioned here for the sake of completeness.

ii. TAXCALC TO TAXWARE MAPPING TABLE

The requirements for this table are described in full under the SYSTEM REQUIREMENTS section of the CAPITALIZATIONS portion of this sub section.

iii. CUSTOMER NUMBER TABLE

The requirements for this table are described in full under the SYSTEM REQUIREMENTS section of the CAPITALIZATIONS portion of this sub section.

B. EXTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT

1. CAPITALIZATIONS

There are three capitalization sources of externally manufactured data processing equipment - Accounts Payable, WIP, and MTC. The tax location information available on the Accounts Payable feed is much more limited than

the information that could be required as part of the manual WIP and MTC processes. As a result, the tax location derivation process for all three feeds is based on the information currently available on the Accounts Payable inbound file. Basically, there are two pieces of location information available on this feed - the requester's IBM employee serial number and the department owning. Given these choices, our panel of tax representatives chose to implement a two tiered tax location derivation strategy using the requester's IBM employee serial number as the primary source of tax location information and the department owning as a secondary source.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of externally manufactured data processing equipment relies exclusively on look ups against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database will allow our system architects to obtain the TAXWARE code and the IBM building number for an asset based on the IBM employee serial number of the requester. Using the requester's serial number, the system architects will be able to determine the closest office location, including building number and work location, of the employee in question. This location information can then be applied to the asset and posted to the Asset Master Record. Although it is unlikely that the equipment will be located in the requester's office, it is probably located in the same tax jurisdiction. Therefore, our panel of tax representatives felt that the requester's location was the best default tax location for externally manufactured data processing equipment. Since the majority of this type of equipment will be capitalized directly from the Accounts Payable feed, our panel of tax representatives selected a secondary tax location strategy to limit the number of errors produced by this feed. The secondary tier of this strategy relies on the department owning indicated on the record. Based on the department owning, the strategy calls for the system to do a look up against Bluepages to determine the IBM employee serial number of the manager of the department in question. Once the manager's IBM employee serial number has been derived, that serial number should be used to reference the Worldwide RE/SO Database to determine the manager's office location. Based on the manager's work location, the Asset Master Record can be updated with the corresponding TAXWARE Code and IBM building number.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against both the Worldwide RE/SO Building Database and Bluepages.

2. TRANSFERS

There are two different transfer feeders for externally manufactured data processing equipment - PCF and MTT. The tax location information included on both PCF and MTT varies with each transfer. However, in all cases where the location of the asset changes the IBM employee serial number of the owner also changes. Given this consistency, our panel of tax representatives chose the 'transfer to' IBM employee serial number as the basis for deriving the tax location of transferred externally manufactured data processing equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

Like capitalizations, the tax location strategy of transfers of externally manufactured data processing equipment relies exclusively on calls against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database houses the closest office location of every IBM employee in the United States. By cross-referencing this information against the 'transfer to' IBM employee serial number provided on the input file, the system architects can derive both the TAXWARE Code and the IBM building number. After this information is extracted from the Worldwide RE/SO Building Database, the tax location information on the Asset Master Record can be overwritten with the updated 'transfer to' location information.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against the Worldwide RE/SO Building Database.

C. RENTAL DATA PROCESSING EQUIPMENT

1. CAPITALIZATIONS

There is only one capitalization source of rental data processing equipment - ICF. The ICF capitalization feed contains a limited amount of tax location information. Basically, the only viable location information on this feed is restricted to customer number. Considering this obvious limitation, our panel of tax representatives selected customer number as the basis for tax location derivation for all rental data processing equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location derivation strategy for rental data processing equipment is exactly the same as the tax location strategy for internally manufactured data processing equipment. Based on the IBM customer number provided on the inbound capitalization record, the state/city/county code can be derived from the SAADB.MINICMR Table. This code will then be converted to the associated TAXWARE code by referencing the TAXCALC to TAXWARE mapping table (see INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - SYSTEM REQUIREMENTS for details on this table). Once this conversion is complete, the Asset Master Record can be updated with the tax location information.

As with internally manufactured data processing equipment, there is an open issue concerning the required derivation of the rental asset's building number. Because the IBM building number information can be maintained in any one of four address fields on the SAADB.MINICMR table, it is not possible to derive the building number based on a direct call

against the table. Instead the building number must be derived by referencing the Customer Number Table (see INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - SYSTEM REQUIREMENTS for details of this

table). The Customer Number Table includes the IBM customer number and its associated IBM building number.

However, the present strategy includes a requirement for the SAP Administration Team to do a manual mapping of customer numbers to IBM building numbers based on queries against the SAADB.MINICMR table. This manual process has been referred

to the SI Team for alternative approaches that are more automated in nature.

b. EXTERNAL DEPENDENCIES

i. MARKET PLACE PROFILE (MPP)

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

i. CUSTOMER NUMBER TABLE

The specifics of this table are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - SYSTEM REQUIREMENTS portion of this document.

ii. TAXCALC TO TAXWARE MAPPING TABLE

The specifics of this table are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - SYSTEM REQUIREMENTS portion of this document.

2. TRANSFERS

As with capitalizations, there is only source of transfers of rental data processing equipment - AST. The AST feed is based on a comparison of changes in the SAADB.STAT_FUNC Table from one month to the next. This table contains a listing of all internally owned data processing equipment tracked on the AAS system including rental equipment. Again, the only viable piece of location information available on the SAADB.STAT_FUNC table is the IBM customer number assigned to the asset. As such, our panel of tax representatives selected customer number as the basis for the default tax location assignment of all transfers of rental data processing equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location derivation strategy for transfers of rental data processing equipment is exactly the same as the tax location strategy for capitalizations of rental data processing equipment. Based on the IBM customer number provided on the inbound capitalization record, the state/city/county code can be derived from the SAADB.MINICMR Table. This

code will then be converted to the associated TAXWARE code by referencing the TAXCALC to TAXWARE mapping table (see INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - SYSTEM REQUIREMENTS for details on this

table). Once this conversion is complete, the Asset Master Record can be updated with the tax location information.

As with internally manufactured data processing equipment, there is an open issue concerning the required derivation of the rental asset's building number. Because the IBM building number information can be maintained in any one of four address fields on the SAADB.MINICMR table, it is not possible to derive the building number based on a direct call

against the table. Instead the building number must be derived by referencing the Customer Number Table (see INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - SYSTEM REQUIREMENTS for details of this

table). The Customer Number Table includes the IBM customer number and its associated IBM building number.

However, the present strategy includes a requirement for the SAP Administration Team to do a manual mapping of customer numbers to IBM building numbers based on queries against the SAADB.MINICMR table. This manual process has been referred to the SI Team for alternative approaches that are more automated in nature.

b. EXTERNAL DEPENDENCIES

i. MARKET PLACE PROFILE (MPP)

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

i. CUSTOMER NUMBER TABLE

The specifics of this table are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - SYSTEM REQUIREMENTS portion of this document.

ii. TAXCALC TO TAXWARE MAPPING TABLE

The specifics of this table are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - SYSTEM REQUIREMENTS portion of this document.

III. PC EQUIPMENT

A. INTERNALLY MANUFACTURED PC EQUIPMENT

1. CAPITALIZATIONS

There are four capitalization sources of internally manufactured pc equipment - FDS, PCW, WIP, and MTC. The tax location information available on the FDS feed is limited to customer number and, in some cases, IBM employee

serial number. The PCW feed, however, contains both customer number and IBM employee serial number as well as the ship to zip code and the department using. Finally, the WIP and MTC feeds contain a variety of information depending on what is entered by the cap accountant at the point of capitalization. In all cases, though, IBM employee serial number is required for capitalizations of internally manufactured pc equipment originating from these feeds. Since IBM employee serial is the only piece of tax location information that is common to all four capitalization sources of this type of equipment, our panel of tax representatives selected the IBM employee serial number as the basis for tax location of internally manufactured pc equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of internally manufactured pc relies exclusively on look ups against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database will allow our system architects to obtain the TAXWARE code and the IBM building number for an asset based on the IBM employee serial number on the input record. Using the IBM employee serial number, the system architects will be able to determine the closest office location, including building number and work location, of the employee in question. This location information can then be applied to the asset and posted to the Asset Master Record. In the case of capitalizations of internally manufactured pc equipment originating from the FDS feed, the IBM employee serial number is not available on the input file. The only information available on this file is the IBM customer number. In order to derive the IBM employee serial number from this information, the customer number should be used to reference the AED Table (see SYSTEM REQUIREMENTS for specific information about this table). This table provides a mapping of internal customer numbers to IBM employee serial numbers. Once the IBM employee serial number is derived based on this mapping, the tax location of the equipment can be determined by cross-referencing the IBM employee serial number against the Worldwide RE/SO Building Database. This methodology follows the same logic as the tax location derivation for all other internally manufactured pc equipment as described above.

b.EXTERNAL DEPENDENCIES

i.WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. 0IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

i. AED TABLE

The AED Table is required in order to derive the tax location of internally manufactured pc equipment that is capitalized via the FDS feed. This table maps the internal customer number from the input file to the IBM employee serial number of the employee who requested the customer number.

1 EXAMPLE TABLE:

Country	Customer Number	Employee Serial Number
US	001045	443700
US	002334	573391
US	000456	024727

FIELD DERIVATION MATRIX:

Field Name	Derivation
Country	Hardcoded to 'US'
Customer Number	Manually Input by IGS Contact Based on Approved AEFORMS from the Bethesda Branch Office
Employee Serial Number	Manually Input by IGS Contact Based on Approved AEFORMS from the Bethesda Branch Office, Value Equals the Requester of the AEFORMS

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OPEN ISSUE:

At the time these requirements were finalized, the decision as to whether AED Table or the PACT Table would be used to capitalize IGS assets had not been made. Regardless of which table is selected, a mapping of internal customer numbers to IBM employee serial numbers needs to be provided to support the tax location strategy for internally manufactured pc equipment.

2. TRANSFERS

There are two different transfer feeders for internally manufactured pc equipment - PCF and MTT. The tax location information included on both PCF and MTT varies with each transfer. However, in all cases where the location of the asset

changes the IBM employee serial number of the owner also changes. Given this consistency, our panel of tax representatives chose the 'transfer to' IBM employee serial number as the basis for deriving the tax location of transferred externally manufactured data processing equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

Like capitalizations, the tax location strategy of transfers of internally manufactured pc equipment relies exclusively on calls against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database houses the closest office location of every IBM employee in the United States. By cross-referencing this information against the 'transfer to' IBM employee serial number provided on the input file, the system architects can derive both the TAXWARE Code and the IBM building number. After this information is extracted from the Worldwide

RE/SO Building Database, the tax location information on the Asset Master Record can be overwritten with the updated 'transfer to' location information.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against the Worldwide RE/SO Building Database.

B. EXTERNALLY MANUFACTURED PC EQUIPMENT

1. CAPITALIZATIONS

There are three capitalization sources of externally manufactured pc equipment - Accounts Payable, WIP, and MTC. The tax location information available on the Accounts Payable feed is much more limited than the information that could be required as part of the manual WIP and MTC processes. As a result, the tax location derivation process for all three feeds

is based on the information currently available on the Accounts Payable inbound file. Basically, there are two pieces of location information available on this feed - the requester's IBM employee serial number and the department

owning. Given these choices, our panel of tax representatives chose to implement a two tiered tax location derivation strategy using the requester's IBM employee serial number as the primary source of tax location information

and the department owning as a secondary source.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of externally manufactured pc equipment relies exclusively on look ups against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database will allow our system architects to obtain the TAXWARE code and the IBM building number for an asset based on the IBM employee serial number of the requester. Using the requester's serial number, the system architects will be able to determine the closest office location, including building number and work location, of the employee in question. This

location information can then be applied to the asset and posted to the Asset Master Record. Since the majority of externally manufactured pc equipment will be capitalized directly from the Accounts Payable feed, our panel of tax representatives selected a secondary tax location strategy to limit the number of errors produced by this feed. The secondary tier of this strategy relies on the department owning indicated on the record. Based on the department owning, the strategy calls for the system to do a look up against Bluepages to determine the IBM employee serial number of the manager of the department in question. Once the manager's IBM employee serial number has been derived, that serial number should be used to reference the Worldwide RE/SO Database to determine the manager's office location. Based on the manager's work location, the Asset Master Record can be updated with the corresponding TAXWARE Code and IBM building number.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against both the Worldwide RE/SO Building Database and Bluepages.

2. TRANSFERS

There are two different transfer feeders for externally manufactured pc equipment - PCF and MTT. The tax location information included on both PCF and MTT varies with each transfer. However, in all cases where the location of the asset changes the IBM employee serial number of the owner also changes. Given this consistency, our panel of tax representatives chose the 'transfer to' IBM employee serial number as the basis for deriving the tax location of transferred externally manufactured pc equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

Like capitalizations, the tax location strategy of transfers of externally manufactured pc equipment relies exclusively on calls against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database houses the closest office location of every IBM employee in the United States. By cross-referencing this information against the 'transfer to' IBM employee serial number provided on the input file, the system architects can derive both the TAXWARE Code and the IBM building number. After this information is extracted from the Worldwide RE/SO Building Database, the tax location information on the Asset Master Record can be overwritten with the updated 'transfer to' location information.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against the Worldwide RE/SO Building Database.

C. LOANER, DEMONSTRATION, AND TRIAL EQUIPMENT

1. CAPITALIZATIONS

There are only two capitalization sources of loaner, demonstration and trial equipment - WIP and MTC. Although, both the WIP and MTC feeds can be customized to include a myriad of tax location information, the only significant piece of data is the loaner number on the record. Since loaner, demonstration, and trial equipment is often housed in a different tax jurisdiction than that of the asset owner, the asset owner's IBM employee serial number is not an appropriate basis for tax location derivation. As such, another tax location derivation strategy had

to be developed. The approach agreed upon by our panel of tax representatives is based on the creation of a series of ten digit numbers called loaner numbers. These loaner numbers represent the customers' addresses where the equipment is located. It is the responsibility of the loaner pool administrators to maintain the listing of loaner numbers and their corresponding addresses. When a piece of loaner, demonstration or trial equipment is capitalized, the WIP accountant must obtain the associated loaner number from the loaner pool administrator in order to complete the capitalization via the CO module or via an MTC file.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of loaner, demonstration or trial equipment relies exclusively on look ups against the Loaner Number Table (see SYSTEM REQUIREMENTS for specific information about this table).

Based on the loaner number, the system architects can retrieve the TAXWARE code associated with the asset's location and post it to the Asset Master Record.

b. EXTERNAL DEPENDENCIES

There are no specific external dependencies required for the implementation of this tax location strategy. The strategy relies completely upon the cooperation of the loaner pool administrators and their willingness to maintain a loaner number listing.

c. SYSTEM REQUIREMENTS

i. LOANER NUMBER TABLE

The Loaner Number Table is required in order to derive the tax location of loaner, demonstration and trial equipment that is capitalized via the WIP and MTC feeds. This table maps the loaner number from the input file to the TAXWARE code associated with the asset's physical address.

Country	Loaner Number	Company Name	Street Address	Postal Code	TAXWARE Code
US	001045	XACT, Inc.	1445 Macarthur Drive; Suite 244	75007	421130480
US	002334	ADT Security Systems	430 Oak Grove Street; Suite 204	55403	220530650
US	000456	Ability Building Center	1911 14th Street NW	55903	221090900

FIELD DERIVATION MATRIX:

Field Name	Derivation
Country	Hardcoded to 'US'
Loaner Number	Manually Input by SAP Administrator - Sequential Numbering Scheme
Company Name	Manually Input by SAP Administrator Based on Lotus Note from Loaner Pool Administrator
Street Address	Manually Input by SAP Administrator Based on Lotus Note from Loaner Pool Administrator
Postal Code	Manually Input by SAP Administrator Based on Lotus Note from Loaner Pool Administrator

TAXWARE Code	Manually Input by SAP Administrator - Coordination with PPT Required to Assign TAXWARE Code
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OPEN ISSUE:

The SAP Administration Team has expressed a concern regarding the amount of manual work this table will require in order to maintain. All possible avenues for automation should be explored. Since the loaner number updates are going to be sent en mass to SAP, one suggestion might be to have the loaner administrator include the address information on this mass update file. In theory, the system could extract the address information associated with the loaner number and load it to the table automatically. If this method was employed, the SAP Administration Team would only be responsible for entering the TAXWARE code information into the Loaner Table.

2. TRANSFERS

There are two different transfer feeders for loaner, demonstration and trial equipment - PCF and MTT. The tax location information included on both PCF and MTT varies with each transfer. However, in the case of loaner, demonstration and trial equipment one piece of information is required on all transfers - the loaner number. These transfers are initiated by the loaner pool administrators either by submitting monthly update files or initiating transfers via PCF.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

Like capitalizations, the tax location strategy of transfers of loaner, demonstration and trial equipment relies exclusively on calls against the Loaner Number Table. Based on the 'transfer to' loaner number on the input file, the system architects can perform a lookup against the Loaner Table and derive the associated TAXWARE Code.

b. EXTERNAL DEPENDENCIES

There are no specific external dependencies required for the implementation of this tax location strategy. The strategy relies completely upon the cooperation of the loaner pool administrators and their willingness to maintain a loaner number listing and submit the required updates.

c. SYSTEM REQUIREMENTS

i. LOANER NUMBER TABLE

The Loaner Number Table is required in order to derive the tax location of loaner, demonstration and trial equipment that is transferred via the PCF and MTT feeds. This table maps the loaner number from the input file to the TAXWARE code associated with the asset's physical address.

IV. MACHINERY AND EQUIPMENT

A. INTERNALLY MANUFACTURED MACHINERY AND EQUIPMENT

1. CAPITALIZATIONS

There are two capitalization sources of internally manufactured machinery and equipment - WIP and MTC. There is a variety of location information available on both of these feeds depending upon what the WIP accountant chooses to enter at the point of capitalization. However, there is one piece of location information that is required on all capitalizations of internally manufactured machinery and equipment - the asset owner's employee serial. Because this information is consistently required, our panel of tax representatives selected the IBM employee serial number as the basis for tax location assignment for this type of equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of internally manufactured machinery and equipment relies

exclusively on look ups against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database will allow our system architects to obtain the TAXWARE code and the IBM building number for an asset based on the IBM employee serial number of the asset owner. Using the asset owner's serial number, the system architects will be able to determine the closest office location, including building number and work location, of the employee in question. This location information can then be applied to the asset and posted to the Asset Master Record.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against both the Worldwide RE/SO Building Database and Bluepages.

2. TRANSFERS

There are two different transfer feeders for externally manufactured pc equipment - PCF and MTT. The tax location information included on both PCF and MTT varies with each transfer. However, in all cases where the location of the asset changes the IBM employee serial number of the owner also changes. Given this consistency, our panel of tax representatives chose the 'transfer to' IBM employee serial number as the basis for deriving the tax location of transferred internally manufactured machinery and equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

Like capitalizations, the tax location strategy of transfers of internally manufactured machinery and equipment relies exclusively on calls against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database houses the closest office location of every IBM employee in the United States. By cross-referencing this information against the 'transfer to' IBM employee serial number provided on the input file, the system architects can derive both the TAXWARE Code and the IBM building number. After this information is extracted from the Worldwide RE/SO Building Database, the tax location information on the Asset Master Record can be overwritten with the updated 'transfer to' location information.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against the Worldwide RE/SO Building Database.

B. VENDOR RETAINED TOOLING

1. CAPITALIZATIONS

There are only two capitalization sources of vendor retained tooling - WIP and MTC. Although, both the WIP and MTC feeds can be customized to include a myriad of tax location information, the only significant piece of data is the vendor number on the record. Since vendor retained tooling is often housed in a different tax jurisdiction than that of the asset owner, the asset owner's IBM employee serial number is not an appropriate basis for tax location derivation. As such, another tax location derivation strategy had to be developed. The approach agreed upon by our panel of tax representatives is based on the vendor number assigned by accounts payable. This vendor number represents the company name and physical address of the vendor who has possession of the equipment. When a piece of vendor retained tooling is capitalized, the WIP accountant must input the associated vendor number in order to complete the capitalization via the CO module or via an MTC file.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of vendor retained tooling relies exclusively on look ups against the Vendor Number Table (see SYSTEM REQUIREMENTS for specific information about this table). Based on the vendor number, the system architects can retrieve the TAXWARE code associated with the asset's location and post it to the Asset Master Record.

b. EXTERNAL DEPENDENCIES

There are no specific external dependencies required for the implementation of this tax location strategy. The strategy relies completely upon the manual entry of the vendor numbers by the WIP accountant at the point of capitalization.

c. SYSTEM REQUIREMENTS

i. VENDOR NUMBER TABLE

The Vendor Number Table is required in order to derive the tax location of vendor retained tooling is capitalized via the WIP and MTC feeds. This table maps the vendor number from the input file to the TAXWARE code associated with the asset's physical address.

EXAMPLE TABLE:

Country	Vendor Table	Vendor Name	Street Address	Postal Code	TAXWARE Code
US	0001023	Onan Corp.	9713 Valley View Road	55344	220530650
US	0001534	Jonathan Mfg Corp.	1101 South Acacia Ave.	92631	040591310
US	0001132	Amray, Inc.	160 Middlesex Tpke	01730	200170075

FIELD DERIVATION MATRIX:

Field Name	Derivation
Country	Hardcoded to 'US'
Vendor Number	Manually Input by SAP Administrator by Referencing Accounts Payable Vendor Table
Vendor Name	Manually Input by SAP Administrator by Referencing Accounts Payable Vendor Table
Street Address	Manually Input by SAP Administrator by Referencing Accounts Payable Vendor Table
Postal Code	Manually Input by SAP Administrator by Referencing Accounts Payable Vendor Table
TAXWARE Code	Manually Input by SAP Administrator - Coordination with PPT Required to Assign TAXWARE Code

OPEN ISSUE:

The SAP Administration Team has expressed a concern regarding the amount of manual work this table will require in order to maintain. If possible this manual table load process should be replaced by a direct feed from Accounts Payable.

2. TRANSFERS

There are two different transfer feeders for vendor retained tooling - PCF and MTT. The tax location information included on both PCF and MTT varies with each transfer. However, in the case of vendor retained tooling one piece of information is required on all transfers - the vendor number. These transfers are initiated by the asset owners either by submitting an update file or initiating transfers via PCF.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

Like capitalizations, the tax location strategy of transfers of vendor retained tooling relies exclusively on calls against the Vendor Number Table. Based on the 'transfer to' vendor number on the input file, the system architects can perform a lookup against the Vendor Table and derive the associated TAXWARE Code.

b. EXTERNAL DEPENDENCIES

There are no specific external dependencies required for the implementation of this tax location strategy. The strategy relies completely upon the input of the asset owner.

c. SYSTEM REQUIREMENTS

i. VENDOR NUMBER TABLE

The Vendor Number Table is required in order to derive the tax location of vendor retained tooling that is transferred via the PCF and MTT feeds. This table maps the vendor number from the input file to the TAXWARE code associated with the asset's physical address.

V. FURNITURE AND FIXTURES

A. INVENTORIAL FURNITURE AND FIXTURES

1. CAPITALIZATIONS

There are two capitalization sources of inventorial furniture and fixtures -WIP and MTC. There is a variety of location information available on both of these feeds depending upon what the WIP accountant chooses to enter at the point of capitalization. However, there is one piece of location information that is required on all capitalizations of inventorial furniture and fixtures - the asset owner's employee serial number. Because this information is consistently required, our panel of tax representatives selected the IBM employee serial number as the basis for tax location assignment for this type of equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of inventorial furniture and fixtures relies exclusively on look ups against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database will allow our system architects to obtain the TAXWARE code and the IBM building number for an asset based on the IBM employee serial number of the asset owner. Using the asset owner's serial number, the system architects will be able to determine the closest office location, including building number and work location, of the employee in question. This location information can then be applied to the asset and posted to the Asset Master Record.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against both the Worldwide RE/SO Building Database and Bluepages.

2. TRANSFERS

There are two different transfer feeders for inventoriable furniture and fixtures - PCF and MTT. The tax location information included on both PCF and MTT varies with each transfer. However, in all cases where the location of the asset

changes the IBM employee serial number of the owner also changes. Given this consistency, our panel of tax representatives chose the 'transfer to' IBM employee serial number as the basis for deriving the tax location of transferred inventoriable furniture and fixtures.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

Like capitalizations, the tax location strategy of transfers of inventoriable furniture and fixtures relies exclusively on calls against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking

Database houses the closest office location of every IBM employee in the United States. By cross-referencing this information against the 'transfer to' IBM employee serial number provided on the input file, the system architects

can derive both the TAXWARE Code and the IBM building number. After this information is extracted from the Worldwide RE/SO Building Database, the tax location information on the Asset Master Record can be overwritten with the updated 'transfer to' location information.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against the Worldwide RE/SO Building Database.

B. NON-INVENTORABLE FURNITURE AND FIXTURES

1. CAPITALIZATIONS

There are three capitalization sources of non-inventoriable furniture and fixtures - Accounts Payable, WIP and MTC. The tax location information available on the Accounts Payable feed is much more limited than the information that could be required as part of the manual WIP and MTC processes. As a result, the tax location derivation process for all three feeds

is based on the information currently available on the Accounts Payable inbound file. Given this restriction, it was originally proposed that the postal zip code on the accounts payable record be used to make a call against a new

Postal Zip Code to AUO Mapping Table. However, this strategy was based on the assumption that the postal zip code represented the 'ship to' postal zip code. Further investigation has determined that the zip code on the accounts payable record actually represents the vendor's postal zip code. As such, a strategy that relies on the zip code on the accounts payable record is not a viable tax location strategy. An alternate strategy using the same type of logic has been proposed. This strategy relies on the requester's IBM employee serial number to determine the location of the requester and use that location to identify the default AUO department the equipment should be capitalized to.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of non-inventoriable furniture and fixtures varies depending on the capitalization source. For non-inventoriable furniture and fixtures capitalized via the accounts payable feed, the strategy is multi-tiered. First, the requester's IBM employee serial number is used to make a call against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database will allow our system architects to obtain the postal zip code of the requester's office location. That postal zip code could then be used

to make a call against the Zip Code to AUO Mapping Table (specific requirements for this table are described under the SYSTEM REQUIREMENTS portion of this topic). Based on the postal zip code of the requester's location, the AUO department, the IBM building number and the TAXWARE code can be derived from this table. This location information can then be applied to the asset and posted to the Asset Master Record.

For capitalizations of non-inventoriable furniture and fixtures from the WIP or MTC feeds, the strategy is much simpler. Since these feeds are driven by manual input, the WIP accountant will be required to check the invoice for the ship to zip code. Based on that postal zip code, the WIP accountant will select the corresponding AUO department off of the Postal Zip Code to AUO Mapping Table. This AUO department will be entered as part of the capitalization record. The system architects will then use the AUO department on the input record to make a call against the Postal Zip Code to AUO Mapping Table. Based on the AUO department from the input record, the IBM building number and the TAXWARE code can be derived. This location information can then be applied to the asset and posted to the Asset Master Record.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

i. POSTAL ZIP CODE TO AUO MAPPING TABLE

This table is required in order to derive the AUO department necessary to build the lotcap inventory number on capitalizations of non-inventoriable equipment from the accounts payable feed. In addition to the lotcap inventory number creation, the table is also required to derive the IBM building number and TAXWARE code for all capitalizations of non-inventoriable furniture and fixtures.

EXAMPLE TABLE:

Country	Postal Zip Code	Local Division	Cost Center	Building Number	TAXWARE Code
US	80301	SG	ZNT	SGPLD0501	050130040
US	30327	FC	AEB	FCPLB861	101210080
US	27709	10	AG5	10RPL676	040371900

US	27713	10	ASO	10RPL500	040371901
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FIELD DERIVATION MATRIX:

Field Name	Derivation
Country	Hardcoded to 'US'
Postal Zip Code	Manually Input by SAP Administration Team based on SAP Capitalization Errors
Local Division	Derived from CSKS Table Based on the Cost Center
Cost Center	Manually Input by SAP Administration Team - Coordination with WIP Accountants Required to Set Up AUOs
Building Number	Manually Input by SAP Administration Team Based on Contact with the PPT Department
TAXWARE Code	Derived from the Building Table based on the Building Number

1 OPEN ISSUE:

The initial set up of this table will require coordination with the WIP accounting community to set up the AUO departments and the PPT department to identify the associated building numbers. In addition, research will need to be performed to determine which postal zip codes should be loaded to the table. This research should be based on the postal zip codes for each work location listed in the Worldwide RE/SO Building Database.

VI. BUILDINGS AND BUILDING EQUIPMENT

A. BUILDINGS AND BUILDING EQUIPMENT

1. CAPITALIZATIONS

There are only two capitalization sources of buildings and building equipment - WIP and MTC. Although, both the WIP and MTC feeds can be customized to include a myriad of tax location information, the only significant piece of data is the building number on the record. This building number represents the IBM building number and work location where the building assets are located. When buildings or building equipment are capitalized, the WIP accountant must input the associated building number in order to complete the capitalization via the CO module or via an MTC file.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of buildings and building equipment relies exclusively on look ups against the Building Number Table (see SYSTEM REQUIREMENTS for specific information about this table). Based

on the building number, the system architects can retrieve the TAXWARE code associated with the asset's location and post it to the Asset Master Record.

b. EXTERNAL DEPENDENCIES

There are no specific external dependencies required for the implementation of this tax location strategy. The strategy relies completely upon the manual entry of the building numbers by the WIP accountant at the point of capitalization.

c. SYSTEM REQUIREMENTS

i. BUILDING NUMBER TABLE

The Building Number Table is required in order to derive the tax location of buildings and building equipment that are capitalized via the WIP and MTC feeds. This table maps the building number from the input file to the TAXWARE code associated with the asset's physical address.

EXAMPLE TABLE:

Country	Building Number	Work Location	RE/SO Building Number	Street Address	TAXWARE Code
US	PLD0501	PLD	0501	5600 Cottle Road	050130040
US	PLB861	PLB	861	1000 River Street	101210080
US	RPL676	RPL	676	4407 Silicon Drive	040371900

FIELD DERIVATION MATRIX:

Field Name	Derivation
Country	Hardcoded to 'US'
Building Number	Work Location + RE/SO Building Number
Work Location	Derived from the RE/SO Worldwide Building Database; Field Name = Work Location
RE/SO Building Number	Derived from the RE/SO Worldwide Building Database; Field Name = Building Id
Street Address	Derived from the RE/SO Worldwide Building Database; Field Name = Address
TAXWARE Code	Derived from the RE/SO Worldwide Building Database; Field Name Has Not Been Assigned

OPEN ISSUE:

The PPT Department has requested that the contents of this table be validated against the Worldwide RE/SO Building Database on a monthly basis. This validation job should be written to produce a report of discontinued facilities. This report will need to manually worked by the SAP Administration Team insuring that all active assets are assigned to active facilities.

2. TRANSFERS

There is only one transfer feeder for buildings and building equipment - MTT. The tax location information included on the MTT feed varies with each transfer. However, in all cases where the location of the asset changes

the building number of the asset also changes. Given this consistency, our panel of tax representatives chose the 'transfer to' building number as the basis for deriving the tax location of transferred buildings and building equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

Like capitalizations, the tax location strategy of transfers of buildings and building equipment relies exclusively on calls against the Building Table. This table maps building numbers to their associated TAXWARE code. Once this call is made based on the 'transfer to' building number, the resulting tax location information can be posted to the Asset Master Record.

b. EXTERNAL DEPENDENCIES

There are no specific external dependencies required for the implementation of this tax location strategy. The strategy relies completely upon the manual entry of the building numbers by the transfer accountant at the point of transfer.

c. SYSTEM REQUIREMENTS

i. BUILDING NUMBER TABLE

The Building Number Table is required in order to derive the tax location of buildings and building equipment that are capitalized via the WIP and MTC feeds. This table maps the building number from the input file to the TAXWARE code associated with the asset's physical address.

VII. NON-FINANCIAL ASSETS

A. NON-FINANCIAL ASSETS

1. CAPITALIZATIONS

There is only one capitalization source for non-financial assets - MTC. There is a variety of location information available on the MTC depending upon what the WIP accountant chooses to enter at the point of capitalization. However, there is one piece of location information that is required on all capitalizations of non-financial assets - the asset owner's employee serial number. Because this information is consistently required, our panel of tax representatives selected the IBM employee serial number as the basis for tax location assignment for this type of equipment.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

The tax location strategy for capitalizations of non-financial assets relies exclusively on look ups against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database will allow our system architects to obtain the TAXWARE code and the IBM building number for an asset based on the IBM employee serial number of the asset owner. Using the asset owner's serial number, the system architects will be able to determine the closest office location, including building number and work location, of the employee in question. This location information can then be applied to the asset and posted to the Asset Master Record.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy.

The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against both the Worldwide RE/SO Building Database and Bluepages.

2. TRANSFERS

There are two different transfer feeders for non-financial assets - PCF and MTT. The tax location information included on both PCF and MTT varies with each transfer. However, in all cases where the location of the asset changes the IBM employee serial number of the owner also changes. Given this consistency, our panel of tax representatives chose the 'transfer to' IBM employee serial number as the basis for deriving the tax location of transferred non-financial assets.

a. TAX LOCATION DERIVATION STRATEGY - OVERVIEW

Like capitalizations, the tax location strategy of transfers of non-financial assets relies exclusively on calls against the Worldwide RE/SO Building Database. This database integrated with the RE/SO Space Tracking Database

houses the closest office location of every IBM employee in the United States. By cross-referencing this information against the 'transfer to' IBM employee serial number provided on the input file, the system architects can derive both the TAXWARE Code and the IBM building number. After this information is extracted from the Worldwide RE/SO Building Database, the tax location information on the Asset Master Record can be overwritten with the updated 'transfer to' location information.

b. EXTERNAL DEPENDENCIES

i. WORLDWIDE RE/SO BUILDING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

ii. IBM SPACE SUITE - RE/SO SPACE TRACKING DATABASE

The specifics of this database are described in the INTERNALLY MANUFACTURED DATA PROCESSING EQUIPMENT - EXTERNAL DEPENDENCIES portion of this document.

c. SYSTEM REQUIREMENTS

There are no specific tables and other system requirements necessary for the implementation of this strategy. The strategy is simply predicated on the premise that the SAP system will be able to effectively make calls against the Worldwide RE/SO Building Database.

EXHIBIT B

Tax Location Derivation (ABF)

Redacted

Created By: Dilip Patel on [REDACTED] at 10:51 AM
Last Changed By: Dilip Patel on [REDACTED] at 01:06 PM
Category: PFS
Sub Category: Tax Location Assignment
System Component: Additional Bridge Functions

1. Location Type field is required for Web Front-end (PCF)
2. — Validity and population of TXJCD on our RESO table will be part of table load process, therefore blank is valid value.
3. Work Loc. + Bldg. will be on MPP

Main objective of Tax Location Derivation process is to derive Tax location at a time of Capitalization and /or Transfer of an Asset.

Currently this process is in two part, one for non-US countries and other for the US.

Based on Input fields, location derivation process sequentially go through conditional checks until Location is derived. Once the Tax Location is derived, process returns to calling controller/process the tax Location Code (TAXWARE Code). When it has been determined that an error situation has been encountered that error code will be set here and returned to calling process. It's calling process responsibility to check the error code and take appropriate action. While deriving tax Location if Work Location and Building is derived, then this process will return Location + Building. Also Location type will be set and returned to calling process.

Special consideration is taken for US side of the logic, is after retrieving TXJCD and before returning to controller, verify TXJCD exists in Taxware to Taxloc mapping table. If TXJCD does not exist or if the taxloc field is blank, set ERROR Code ("TXJCD does not have matching Tax location Code"). The derived TXJCD value should be returned to the calling program.

There are two path to Location derivation process, One for US and the other for all other countries. To process which side of Location Derivation, ABF will look in to Country Table to make determination to either to process EMEA or US.

Field	Valid Values	Input / Output
Country Code	Valid Country Code	I
Location Type	L, V, I, C	I/O
Usage Code	15*	I
Asset Class	42, 41, 0X, 1X*	I
Lotcap Indicator	Y or N	I
Employee Serial Number	Valid Serial	I
Vendor Number	Valid Vendor Number	I

Plant of Control	Valid Plant of Control	I
Customer Number	Valid Customer Number	I
Work Loc. + Building	Valid Work Loc. + Building	I/O
Ship_to_Zipcode	Valid Ship_to_zipcode	I
Loaner Number	Valid Loaner Number	I
Responsible Cost Center	Valid RCC	I/O
Ordering Cost Center	Valid Cost Center	I
Profit Center	Valid Profit Center (PRCTR)	I
Warehouse Number	Valid Warehouse #	I
Owner Type for Warehouse Lookup	WDC or WH*	I
Taxw Code(TXJCD)	Valid Tax Code	O
Error Code	Blank as Input/Output If error, Error Code will be passed back	O

* These are the values that are specifically used in the derivation process.

Note: -

- 1) This fields are needed by itself or with conjunction with one and another for Tax Location Derivation.

Special consideration for US Tax Location Derivation:

- 1). After retrieving TXJCD and before returning to controller, verify TXJCD exists in Taxware to Taxloc mapping table.

If TXJCD does not exists, set ERROR Code for ("TXJCD does not have matching Tax location Code")

Interim Location Derivation Process

If LOTCAP_IND = Yes

Do;

Use Ship_to_Zipcode as key to read in RESO table

If Ship_to_Zipcode found

Retrieve TXJCD Code from RESO Table

Set Location_type = 'I' /* IBM Bldg. work loc. and building */

Else /** EEEEEERRROORRRR ***/

End;

Else

If Owner_type = 'WH*' or 'WDC' or 'PM' or 'HDC' or 'SDC'

Do;

```

Read Warehouse Owner Table by Warehouse Number and Country Code as key
If Warehouse Number and Country Code found
Do;
    Use Work. Loc. + Bldg. as key to RESO Table
    If Found
        Retrieve and Assign TXJCD from RESO Table
        Set Location Type = 'I'
    Else /*** EEEERRRRRROOOORRRR ***/
End;
Else /*** EEERRRRROOOORRRR ***/
End;
Else
If Work Loc. + Bldg. NE Blank
Do;
    Use Work Loc. + Bldg. # as key from input to read in Building (RESO) table
    If Work Loc. + Bldg. found
        Retrieve Building Information with TXJCD Code
        Set Location Type = 'I'
    Else /*** EEERRRRRROOOORRRR ***/
End;
Else
If Ordering_Cost center NE Blank
Do;
    Read CSKS by Ordering Center as Key
    If work. Loc. + Bldg. found
    Do;
        Use Work. Loc. + Bldg. as key to RESO table
        If Found
            Retrieve and Assign TXJCD from RESO Table
            Set Location Type = 'I'
        Else

```

EEEEERRRRRROOOORRRR

```

End;
Else

```

Process logic below from "Interim Blue Page"

```

End
Else

```

Process logic below from "Interim Blue Page"

Interim Blue Page

If EMPLOYEE_SERIAL NE BLANK

Do;

Use Country Code to see which field will be use to get to Work Loc. + Bldg. (new field on cntry table)

If Intrim-derived_field = blank

Do;

Process logic from "Interim By Employee Serial #"

End;

Else

Do;

Use Emp. Serial Number as Key to read in Blue Pages

If Emp. Serial Found

Do;

Use Intrim-derived_field to retrieve Work Loc. + Bldg(from workloc_bld mapping table)

If Intrim-derived_field found

Use Work Loc. + Bldg. from Interim table to retrieve TXJCD from RESO Table

If Found on RESO

Assign TXJCD from RESO

Set Location_type = 'I' /* IBM Bldg. and work loc. and building */

Return Work. Loc. + Bldg.

Else /* EEERRRRRROOOORRRR */

Else /* EEERRRRRROOOORRRR */

End;

Else

Process logic from "Interim By Cost Center"

End;

End;

Else

Process logic from "Interim By Cost Center"

Interim By Employee Serial Number

If EMPLOYEE_SERIAL NE BLANK

Do;

Use Emp. Serial Number as Key to read in Blue Pages

If employee_serial found

Do;

Use Work Loc + Building # from Blue Pages to read in RESO Table

IF Work. Loc + Bldg Found

```

        Retrieve TXJCD Code from RESO Table
        Assign TXJCD
        Set Location_type = 'I' /* IBM Bldg. and work loc. and building */
    Else /** EEEEEERRRRROOOOORRRR **/
        End;

```

Else

If employee_serial Not Found

```

    Do;
        If cost center NE BLANK
            Do;

```

Process logic from "Interim By Cost Center"

```

            End;
        Else

```

EEEEEEERRRRRRROOOOOOORRRRRRRRR

```

    End; /* end of Employee serial not found */
    End; /* end of Employee Serial # not Blank */

```

Interim By Cost Center

If cost center NE BLANK

```

    Do;
        -Use cost center as key to read in Bluepages table & Retrieve Mgr.'s. Serial # for cost center .
        If Mgr.'s Serial Found then
            Do;
                If Inrim-derived_field = Blank
                    Use Work Loc. + Bldg to read RESO table
                    If Found on RESO
                        Assign TXJCD from RESO
                        Set Location_type = 'I' /* IBM Bldg. and work loc. and building */
                        Return Work. Loc. + Bldg.
                    Else /* EEEERRRRROOOOORRRR */
                Else
                    If Inrim-derived_field NE Blank
                        Use Inrim-derived_field to retrieve Work Loc. + Bldg(from mapping table)
                        If Inrim-derived_field found
                            Use Work Loc. + Building to read in RESO Table
                            If Found on RESO
                                Assign TXJCD from RESO
                                Set Location_type = 'I' /* IBM Bldg. and work loc. and building */
                                Return Work. Loc. + Bldg.
                            Else /* EEEERRRRROOOOORRRR */

```

```

Else/* EEEEEERRRRROOOOOORRRRR*/
End;
Else
If Mgr.'s Serial Not Found then
Do;
-Use Cost Center as key to read in CSKS for Serial(NAME2)
If Serial Found
-Use Serial # to read Blue Pages
Do;
If Inrim-derived_field = Blank
Use Work Loc. + Bldg to read RESO table
If Found on RESO
Assign TXJCD from RESO
Set Location_type = 'I' /* IBM Bldg. and work loc. and building */
Return Work. Loc. + Bldg.
Else /* EEEEEERRRRROOOOOORRRR */
Else
If Inrim-derived_field NE Blank
Use Inrim-derived_field to retrieve Work Loc. + Bldg(from mapping table)
If Inrim-derived_field found
Use Work Loc. + Building to read in RESO Table
If Found on RESO
Assign TXJCD from RESO
Set Location_type = 'I' /* IBM Bldg. and work loc. and building */
Return Work. Loc. + Bldg.
Else /* EEEEEERRRRROOOOOORRRR */
Else/* EEEEEERRRRROOOOOORRRRR*/
End;

```

If Serial Not Found

Use logic from "Interim by Default Owner (Serial #)"

```

End; /* Mgr.'s Serial Not Found */
End; /* cost center NE Blank */

```

Interim by Default Owner(Serial #)

```

-Use Country Code to find Default Owner in Default Owner table
If Default Owner (Serial #) found
Do;
-Retrieve Default Serial # and Read in Blue Pages for Inrim-derived_field to WrkLoc.+Bldg.
If Default Serial # Found & Work Loc. + Bldg. <> Blank
Do;
Use Work Loc. + Bldg. as key to read in RESO Table
If Work Loc. + Bldg. found
Do;
Retrieve TXJCD Code
Set Location Type = I /* IBM Bldg. work Loc. */
End; /* end of Work Loc. + Bldg. found & TXJCD Code <> Blank */
Else /* EEEEEERRRRRRROOOOOORRRRRR */
End; /* end of Serial # found in Blue Pages & Work Loc. + Bldg. <> Blank */
Else /* ***** EEEEEERRRRRRROOOOOORRRRRR */
End; /* end of Default Owner (Serial #) found in Default Owner Table */

```

Else /**** EEEEEERRRRRRROOOOOORRRRRR *****/

Interim Process End

Strategic Location Derivation Process

Return to Plant

If Usage_code = '15'

Do; /**** For Return to plant ****/

-Use Plant code as key to read in Plant_Of_control table

if Plant_of_control found & Work_loc + Bldg. <> blank

Do;

-Retrieve Work_loc + Bldg. Number

-Use Work_loc + Bldg. as key to read in RESO table

If TXJCD Code found

-Retrieve TXJCD Code from RESO

-Set Location_type = 'I' /* IBM Bldg. and work loc. and building */

Else /*EEEEERRRRROOOOORRR ****/

End;

Else /*EEEEERRRRROOOOORRR ****/

End;

Else

Rentals

If ASSET_CLASS = '42'

Do;

Read ZACTLAREA by Land1 to retrieve Country Code(i.e. 897 for US)

if found

Do;

Use Country code + Input Customer Number & TXJCD <> Blank

to read in ZKNA1(by KATR6 + ZZKV-CUSNO)

If Customer Number found & TXJCD <> blank

Do;

Read Customer Number in ZADRC where **ZKNA1-ADNRN =**
ZADRC-ADDRNUMBER and ZADRC-NATION = ''

If Customer found & ((ZADRC-ROOMNUMBER and ZADRC-BUILDING) <> Blank)

Do; /* Internal */

Retrieve Work Loc, Building
Go to ZARESO to retrieve TXJCD
Set Location type = 'I'

End;

else

Do;

Do; /* External */
Retrieve KNA1-TXJCD
Set Location type = 'C'
End; /* external */

End; /* If work Loc + Bldg was blank on MPP */

End; /* if customer found in MPP */

Else/* Customer Not found */

if Customer is not Found

Do;

Use Customer Number to read in ZACUST

If Customer Number Found & Work Loc + Bldg <> Blank

Do;

Use Work Loc + Bldg to read in ZARESO
If Work Loc + Bldg found in ZARESO

Do;

Retrieve TXJCD
Set Location type = 'I'

End;

Else /** ERROR ****/**

End;_____

Else_____

EEEEERRRRRROOOOORRRR

END; /* end of customer not found or TXJCD code is blank */

End; /* ZACTLAREA - Country Code found */

Else

/** EERRRROOORRR Country Code Not found ****/**

End; /* end of Asset class 42 */

Else

All Lotcaps

If LOTCAP_IND = Yes

Do; /*** For Lot cap *****/**

Use Ship_to_Zipcode + Profit Center as key to read in Ship_to_Zip table

IF Record Found

Do;

Retrieve Work Loc. + Building Number

Based on Work Loc. + Building Number, read in RESO table to (Possibly direct read of
RESO by ZIP Code & Profit Center) retrieve TXJCD Code from RESO Table
Set Location_type = 'I' /* IBM Bldg. and work loc. and building */

End;

Else

Do;

EEEEERRRRRRROOOOORRRRR

End;

End;

Else

Warehouse

If Owner_type = WDC* or WH* or PM* or HDC* or SDC*

Do;

Read Warehouse Owner Table by Warehouse Number and Country Code as key

If Warehouse Owner Number and Country Code found

Do;

Use Work. Loc + Bldg as key to RESO Table

If Found

Retrieve and Assign TXJCD from RESO Table

Set Location Type = 'I'

Else /** EEEERRRRROOORRRR ***/

End;

Else /** EEERRRRROOOORRRR ***/

End;

Else

Land & Building

If ASSET_CLASS = 0X* or 1X*

Do; /** Buildings & Land ***/

Use Work Loc. + Bldg. # as key from input to read in RESO table

If Work Loc. + Bldg. found & TXJCD Code is <> Blank

Retrieve TXJCD Code from RESO table

Set Location_type = 'I' /* IBM Bldg. */

Else /** EEEEEERRRRRRROOOOOORRRRRR ***/

End;

Else

Property Control (Web Front-end)

If LOCATION_TYPE = 'L'/'V'/'I'/'C'

Do;

IF 'V' /** Location For Vendor ****/**

Do;

Use Vendor Number as key from input to read in Vendor Table

If Vendor Number found & TAXAWARE Code is <> Blank

Retrieve Vendor Information. with TXJCD Code

Else /* EEEEEERRRRRROOOOOORRRRRR***/**

end;

If 'L' /** Location For Loaner ****/**

Do;

Use Loaner Number as key from input to read in Loaner Table

If Loaner Number found & TXJCD Code is <> Blank

Retrieve Loaner Information. with TXJCD Code

Else /* EEEEEERRRRRROOOOOORRRRRR***/**

end;

If 'C' /** Location For customer # ****/**

Do;

Do; /*** ***/**

Read ZACTLAREA by Land1 to retrieve Country Code(i.e. 897 for US)

if found

Do;

Use Country code + Input Customer Number & **TXJCD <> Blank**

to read in ZKNA1(by KATR6 + ZZKV-CUSNO)

If Customer Number found & TXJCD <> blank

Do;

Read Customer Number in ZADRC where **ZKNA1-ADRNR =**

ZADRC-ADDRNUMBER and ZADRC-NATION = ''

If Customer found & ((ZADRC-ROOMNUMBER and ZADRC-BUILDING) <> Blank)

Do; /* Internal */

Retrieve Work Loc, Building

Go to ZARESO to retrieve TXJCD

Set Location type = 'I'

End;

else

Do;

Do; /* External */

Retrieve KNA1-TXJCD

Set Location type = 'C'

End; /* external */

End; /* If work Loc + Bldg was blank on MPP */

End; /* if customer found in MPP */

Else/* Customer Not found */

if Customer is not Found

Do;

Use Customer Number to read in ZACUST

If Customer Number Found & Work Loc + Bldg <> Blank

Do;

Use Work Loc + Bldg to read in ZARESO

If Work Loc + Bldg found in ZARESO

Do;

Retrieve TXJCD
Set Location type = 'I'

End;
Else /**** ERROR ****/

End;_____
Else_____

EEEEERRRRRROOOOORRRRR

END; /* end of customer not found or TXJCD code is blank */
End; /* ZACTLAREA - Country Code found */
Else
/** EERRRROOORRR Country Code Not found ****/**

end; /* End of Location type = C */

If 'I' /** Work Loc + Bldg Lookup Logic */**

Do;
Use Work Loc. + Bldg. # as key from input to read in Building (RESO) table
If Work Loc. + Bldg. found & TXJCD Code is <> Blank
Retrieve Building Information with TXJCD Code
Else/** EEEEEERRRRRROOOOORRRRRR****/**
end;

End;

Else

DP Equipment

If ASSET_CLASS = '41'

Do; /***** For DP Equipment *****/

If customer number NE BLANK

Do

Read ZACTLAREA by Land1 to retrieve Country Code(i.e. 897 for US)
if found

Do;

Use Country code + Input Customer Number & TXJCD <> Blank
to read in ZKNA1(by KATR6 + ZZKV-CUSNO)

If Customer Number found & TXJCD <> blank

Do;

Read Customer Number in ZADRC where **ZKNA1-ADRNR =**
ZADRC-ADDRNUMBER and **ZADRC-NATION = ''**

If Customer found & ((ZADRC-ROOMNUMBER and ZADRC-BUILDING) <> Blank)

Do; /* Internal */

Retrieve Work Loc, Building
Go to ZARESO to retrieve TXJCD
Set Location type = 'I'

End;

else

Do;

Do; /* External */
Retrieve KNA1-TXJCD
Set Location type = 'C'

```

        End; /* external */
    End; /* If work Loc + Bldg was blank on MPP */
End; /* if customer found in MPP */
Else /* Customer Not found */
    if Customer is not Found
        Do;
            Use Customer Number to read in ZACUST
            If Customer Number Found & Work Loc + Bldg <> Blank
                Do;
                    Use Work Loc + Bldg to read in ZARESO
                    If Work Loc + Bldg found in ZARESO
                        Do;
                            Retrieve TXJCD
                            Set Location type = 'I'
                        End;
                    Else /*** ERROR ***/
                        End;
                Else
                    End;
            End;
        End;
    End;

```

Process logic below from "By Employee Serial #"

```

        END; /* end of customer not found or TXJCD code is blank */
    End; /* ZACTLAREA - Country Code found */
    Else
        /*** EERRRROOORRR Country Code Not found ***/

```

```

    END; /* Customer NE Blank */
    Else
        If employee_serial NE BLANK
            Do;

```

Process logic below from "By Employee Serial #"

```

        End;
    Else
        If cost center NE BLANK
            Do;

```

Process logic below from "Cost Center(Dept)"

```

        End;
    Else /*** EEERRROOOORRRR ***/
        END;
    Else

```

Vendor Number

```

    If Vendor_number <> ''
        Do;
            -Use Vendor Number as key from input to read in Vendor Table
            If Vendor Number Found & TXJCD Code is <> Blank

```

-Retrieve Vendor Information with TXJCD Code
-Set Location_type = 'V' /* Vendor */
Else

Process logic below from "By Employee Serial #"

END;

Else

Loaner Number

If Loaner_number <> = ''

Do;

-Use Loaner Number as key from input to read in Loaner Table
If Loaner Number Found & TXJCD Code is <> Blank
-Retrieve Loaner Information. with TXJCD Code
-Set Location_type = 'L' /* Loaner */
Else

Process logic below from "By Employee Serial #"

END;

Else

Work Location & Building

If Work loc. + Bldg. num. <> = ''

Do;

-Use Work Loc. + Bldg. # as key from input to read in Building (RESO) table
If Work Loc. + Building Found & TXJCD Code is <> Blank
-Retrieve TXJCD Code from RESO
-Set Location_type = 'I' /* IBM Bldg. */
Else

Process logic below from "By Employee Serial #"

END:

Else

By Employee Serial Number

If EMPLOYEE_SERIAL NE BLANK

Do;

If employee_serial found

Do;

Use Emp. Serial Number as Key to read in Blue Pages

Use Work Loc + Building # from Blue Pages to read in RESO Table

IF Work. Loc + Bldg Found

Retrieve TXJCD Code from RESO Table

Assign TXJCD

Set Location_type = 'I' /* IBM Bldg. and work loc. and building */

Else /** EEEEEERRRRROOOORRRR **/

End;

Else

If employee_serial Not Found

Do;

If cost center NE BLANK

Do;

-Use cost center as key to read in Bluepages--> Mgr.'s. Serial

If Mgr.'s Serial Found then

Do;

Use Work Loc + Building # from Bluepages to read in RESO Table

Retrieve TXJCD Code from RESO Table

Set Location_type = 'I' /* IBM Bldg. Work Loc. */

End;

Else

If Mgr.'s Serial Not Found then

Do;

-Use Cost Center as key to read in CSKS for Serial

If Serial Found

-Use Serial # as Key to read in Blue Pages for Work Loc. + Bldg.

-If Work Loc. + Bldg. found in Blue Pages

Use Work Loc. + Bldg. as key to read in RESO Table

If Work Loc. + Bldg. Found & TXJCD Code <> blank

Retrieve TXJCD Code

Set Location Type = 'I' /* IBM Bldg. work Loc. */

Else

Use Country Code to find Default Owner(Serial #)-->Blue Pages ---> Work. Loc+Bldg --->RESO-->TXJCD
If Not Found / ERROR**/**

Else

Use Country Code to find Default Owner(Serial #)-->
Blue Pages ---> Work. Loc+Bldg --->RESO-->TXJCD
If Not Found / ERROR**/**

If Serial Not Found

-Use Country Code to find Default Owner(Serial #)-->
Blue Pages ---> Work. Loc+Bldg --->RESO-->TXJCD
If Not Found / ERROR**/**

End; /* Mgr.'s Serial Not Found */
 End; /* cost center NE Blank */
 Else

Process logic below from "By Customer Number"(When Cost Center is Blank)

End; /* end of Employee serial not found */
 End; /* end of Employee Serial # not Blank */
 Else

By Customer Number

IIf Customer_NUMBER NE BLANK
Do

Read ZACTLAREA by Land1 to retrieve Country Code(i.e. 897 for US)
 if found

Do;

Use Country code + Input Customer Number & TXJCD <> Blank
 to read in ZKNA1(by KATR6 + ZZKV-CUSNO)

If Customer Number found & TXJCD <> blank

Do;

Read Customer Number in ZADRC where **ZKNA1-ADRNR =**
ZADRC-ADDRNUMBER and ZADRC-NATION = ''

If Customer found & ((ZADRC-ROOMNUMBER and ZADRC-BUILDING) <> Blank)

Do; /* Internal */

Retrieve Work Loc, Building
 Go to ZARESO to retrieve TXJCD
 Set Location type = 'I'

End;

else

Do;

Do; /* External */
 Retrieve KNA1-TXJCD
 Set Location type = 'C'
End; /* external */

End; /* If work Loc + Bldg was blank on MPP */

End; /* if customer found in MPP */

Else/* Customer Not found */

if Customer is not Found

Do;

Use Customer Number to read in ZACUST
If Customer Number Found & Work Loc + Bldg <> Blank

Do;

Use Work Loc + Bldg to read in ZARESO
If Work Loc + Bldg found in ZARESO

Do;

Retrieve TXJCD
 Set Location type = 'I'


```

End;
Else /**** ERROR ***/
End;
Else

```

```

Use Country Code to find Default Owner(Serial #)-->
Blue Pages ---> Work. Loc+Bldg --->RESO-->TXJCD
If Not Found /*** ERROR**/

```

```

END; /* end of customer not found or TXJCD code is blank */
End; /* ZACTLAREA - Country Code found */
Else
    /**** EERRRROOORRR Country Code Not found ****/

```

```

End;
Else

```

By Cost Center (Dept

If cost center NE BLANK

```

Do;
    -Use cost center as key to read in Bluepages table & Retrieve Mgr.'s. Serial # for cost center .
    If Mgr.'s Serial Found then
        Do;
            Use Work Loc + Building # from Bluepages to read in RESO Table
            IF Work. Loc + Bldg Found
                Retrieve TXJCD Code from RESO Table
                Assign TXJCD
                Set Location_type = 'I' /* IBM Bldg. and work loc. and building */
            Else /** EEEEEERRRRROOOOORRRR **/

```

```

        End;
    Else
        If Mgr.'s Serial Not Found then
            Do;

```

```

                -Use Cost Center as key to read in CSKS for Serial
            If Serial Found
                -Use Serial # as Key to read in Blue Pages for Work Loc. + Bldg.
                -If Work Loc. + Bldg. found in Blue Pages
                    Use Work Loc. + Bldg. as key to read in RESO Table
                    If Work Loc. + Bldg. Found
                        Retrieve TXJCD Code
                        Set Location Type = 'I' /* IBM Bldg. work Loc */
                    Else

```

```

/**** EEEERRRRRROOOOORRRRRR****/

```

```

Else;
If Serial Not Found
    -Use Country Code to find Default Owner in Default Owner table
    If Default Owner (Serial #) found
        Do;
            -Retrieve Default Serial # and Read in Blue Pages
            If Default Serial # Found & Work Loc. + Bldg. <> Blank

```

Do;

Use Work Loc. + Bldg. as key to read in RESO Table
If Work Loc. + Bldg. found & TXJCD Code < blank

Redacted

Do;

Retrieve TXJCD Code

Set Location Type = I' /* IBM Bldg. work Loc. */

End; /* end of Work Loc. + Bldg. found & TXJCD Code < Blank */

Else /* EEEEEERRRRRRROOOOOOORRRRRR ** */

End; /* end of Serial # found in Blue Pages & Work Loc. + Bldg. < Blank */

Else /* **** EEEEEERRRRRRROOOOOOORRRRRR ** */

End; /* end of Default Owner (Serial #) found in Default Owner Table */

Else /* **** EEEEEERRRRRRROOOOOOORRRRRR **** */

End; /* Mgr.'s Serial Not Found */

End; /* cost center NE Blank */

Else

DO; /***** If Non of Above condition *****/

/* EEEEEERRRRRRROOOOORRRRRR **** */

End;

** Location Type is needed for input type: WEB front-end

Loc. type Ind.	Location Type
V	Vendor
C	Customer
L	Loaner
I	Building (IBM)

Fields needed from Z tables for Location Derivation Process are included in the attached document along with other new/changed Z tables fields:

Link

Alfred Byczynski on [REDACTED]
Ivan Hoefnagels on [REDACTED]
Sim Brown on [REDACTED]
Tracey Santulli on [REDACTED]

Redacted

Dave Corkum on [REDACTED]
Nicholas Quattrocchi on [REDACTED]
Vincent Formale on [REDACTED]
Sharon Perun on [REDACTED]

EXHIBIT C

Error Correction Facility PFS

Created By: Frya Barnes on [REDACTED] at 11:01 AM
Last Changed By: Dean Stockwell on [REDACTED] at 12:53 PM
Category: PFS
Sub Category: WW PFS/Projects
System Component: ECF

Redacted

Originator		Previous reviewers		Current Reviewers		Future reviewers
Frya Barnes		Derek Rutledge Thomas Feil Vincent Formale Margarete Graessle Annerose Rieth Tracey Santulli Robert Setzer Ann Mitchell Sharon Perun Dean Stockwell		Ruediger Kirschl		None

Status In Review

CR520 Link To synchronize field descriptions in ECF
See Vinny's document [Link](#) for field descriptions

Release 2.2 Notes:

There are no changes associated with ECF for the Retirement Controller. I added the Retirement Overview details. For some reason, this was not in or it was removed from the original document. (NQ [REDACTED])

New fields have to be created for Capitalizations

For Transfers new fields have been added . CV [REDACTED]

OPEN ITEMS:

The field names shown below for detail page of Capitalizations are the rel 2.1 field names. They should be changed to the common descriptions stated in CR520.

The Error Correction Facility (ECF) is a common set of functions for handling errors generated during the processing of inbound bridges. Errors detected by the bridge programs will be routed to ECF for correction/resubmission by accounting center users.

The types of errors that this facility would handle are ones that occur within individual input records. If an entire file is in error due to invalid control totals or other problems with the file the entire job will fail and be handled via the job scheduling process, not ECF.

It is important to understand that the way errors will be handled and reprocessed is dependent upon the point within the bridge processing the error originated from. Inbound bridge processing is made up of two distinct phases. The first part takes the input data and generates one or more SAP transaction structures from it, fully populated with all the data. This first part is called a Process Controller. Validations are performed in the Process Controller as well as table lookups which get data not provided in the input record. The second part processes the transaction structures into SAP, one at a time. The second part is called the Transaction Controller.

If an error is detected in the Process Controller, the input structure plus any derived data elements are written to ECF. Once the problem is corrected the data is input back into the Process Controller and rerun from the beginning of the controller. The transaction structures are rebuilt from the input structure.

If an error is detected in the Transaction Controller or in one of the transactions it calls, all of the transactions are written to ECF. The transaction will have result/error codes with them so that it can be determined which transactions successfully processed, which one failed, and which have not run yet. If SAP has been updated by at least one of the transactions, error handling is more complex because SAP is left partially updated. The completed transactions cannot be rolled back. The Process Controllers cannot handle a rerun of these incomplete records unless specific logic is built in for each situation. Rather than incorporate into all the bridges additional logic to handle resubmitting the incomplete ECF records, ECF will bypass the Process Controllers and reprocess the errors as SAP transactions back into the Transaction Controller. The Transaction Controller will use the result/error codes to determine which transactions to process.

Components

Insert Errors to the ECF Table

All controllers will call a function to insert errors to the ECF tables. The function inserts one process controller record or one transaction record each time it is called. If there are a set of transactions to be inserted, the insert function is called once for each transaction.

In addition to inserting the record into the ECF tables, the record is inserted into the corresponding audit trail table as well. This record is never changed and will remain as an original copy of the record.

Dialog to View/Change Error Records

Maintenance dialogs generated by SAP will be used to view/update ECF data. From these dialogs, users can modify individual records, select records to view/update, and perform a mass change against selected records. Creating on-line or printed reports with the flexibility to select records, fields, sort sequence and report format is also available from the maintenance dialogs.

Purging records will be enabled by a user changing the status field on the record to a "P". When the next ECF batch cycle runs, all "P" records will be deleted from the ECF tables and moved to the audit trail tables.

Reprocessing of Errors

Batch programs will extract records from the ECF tables and resubmit the data to the Process Controller or Transaction Controller. The batch programs will support selecting all ECF records for reprocessing or just those with a status of "corrected." If another error occurs on a record that has been resubmitted, the record in ECF is updated with the new error message. If the record is successfully processed the new record is moved to an audit trail table and the original record is deleted from the ECF table.

Archive Process

An archive process is used to reduce the amount of data being stored in the ECF Audit Trail tables. Records will be selected to be archived and be removed from the table and put into files to be stored for historical purposes. It is not expected that users will use the archived data in MVS very much.

Audit Trail

Audit trail tables will contain a copy of the original and corrected records. The audit trail table is populated with the original record when the error is first inserted into ECF. After the corrected record has been successfully reprocessed into SAP it is deleted out of the ECF table and inserted into the audit trail table.

Authorization

Authorization will be set up using standard SAP authorization objects and groups. There is one authorization group per table or related groups of tables. From these profiles, on-line ECF processing is able to perform the following validations and processing.

- Determine if a user has no access, read access, or update access to the table they selected.
- Select and allow access to the data for only the country or countries defined in the authorization project.

Users will be granted either read or update access to specific ECF tables and countries. Authorizations based on specific fields is not provided. If a user has access to a table they can view/change the entire record. Certain fields in a record are display only, but they will be display only to all users.

Assumptions

SAP authorization objects and profiles will be defined outside the scope of this PFS.

The structures of the various transactions can be found in the AD Design documents or in SAP.

ECF Error Tables

Errors are stored in SAP user defined tables (commonly called Z-tables). All tables are client dependent. Each unique data format is stored in a separate table. The tables have two logical parts. One contains the data in common across all records. These are key fields, control information, error message, machine type and serial, etc. The other part of the table contains the data specific to the particular record format. The elements making up the common part of the tables are listed here. The table name of each of the individual formats is listed after the common fields. See the table layout in the SAP data dictionary for the fields/field sizes of each of the tables via transaction SE11.

Common Data Fields

- Client
- Country
- Feeder Source Code
- Bridge Sequence Number
- Bridge Record Number

- Transaction Sequence Number
- Status
- SAP SubRC
- SAP Message Type
- SAP Message Identification
- SAP Message Number
- SAP Message Text
- SAP Message Variable 1
- SAP Message Variable 2
- SAP Message Variable 3
- SAP Message Variable 4
- Original Run Date
- Original Run Time
- Change Date
- Change Time
- Change Userid
- ECF Completion Date
- Process Type
- SAP Transaction Code

Process Controller and Transaction Specific Data Formats

The following table contains a list of the individual data formats supported in ECF. Each of the formats in the table below have an associated audit trail table and screens for each table.

Data Format	SAP Table Name	Transaction Description
Capitalization Controller	ZATECFCAPS	Capitalizations
Transfer Controller	ZATECFTFRS	Transfers
Retirement Controller	ZATECFRETS	Retirements
Project Controller	ZATECFPROJ	Projects
ABAV	ZATECFABAV	Retirement
ABUM	ZATECFABUM	Transfer
ABZK	ZATECFABZK	FI Posting
ABZU	ZATECFABZU	Write-up of special depreciation
AMTS	ZATECFAMTS	Amounts for ABZK postings, linked

		to an ABZK for intercompany transfers
AS01	ZATECFAS01	Create Asset Master
AS02	ZATECFAS02	Update Asset Master
AS11	ZATECFAS11	Create Asset Subnumber
FB01	ZATECFFB01	FI Posting
FB08	ZATECFFB08	FI Reversal
KO01	ZATECFKO01	Create Internal Order
KO02	ZATECFKO02	Update Internal Order
KOH1	ZATECFKOH1	Create Order Group
KOH2	ZATECFKOH2	Update Order Group
FMZ1	ZATECFFMZ1	Create Funds Reservation
FMZ2	ZATECFFMZ2	Update Funds Reservation
FMZ4	ZATECFFMZ4	Reduce Funds Reservation
OIPC	ZATECFOIPC	Insert PCF Delta Transactions into ECF
KO22	ZATECFKO22	Update Budget

Depreciation Areas Table

In the cases where an AS01 or AS11 transaction is stored in ECF, the depreciation data extracted from the ZAASSETCLS table (depreciation area, useful live, period and calculation key) is stored in a separate table. The table supports a variable number of rows of depreciation data per AS01/AS11 transaction. The keys of the table provide linkage to a specific AS01 or AS11 transaction. Since it is directly linked to other ECF tables, it does not contain many of the common data fields contained in the other tables. A sequence number is used to provide a unique key for each row. The table name for this table is ZAECFDEPR. There is no audit trail table or screens to access the depreciation area. SE16 or SE17 can be used to view the table when necessary.

Posting Amounts Table

In the cases where an ABZK transaction which is part of an intercompany transfer is stored in ECF, as many as 15 amounts for each depreciation area can be part of the ABZK transaction. These amounts are stored in a separate table. The table supports a variable number of rows of amount data per ABZK transaction. The keys of the table provide linkage to the specific ABZK transaction. Since it is directly linked to other ECF tables, it does not contain many of the common data fields contained in the other tables. A sequence number is used to provide a unique key for each row. The table name for this table is ZATECFAMTS. While this table is structured the same way as the depreciation areas table, note that it does have an audit trail table. SE16 or SE17 can be used to view the table when necessary.

Audit Trail Tables

The audit trail tables are identical to the corresponding ECF tables and contain the original and corrected record once the record has been successfully processed into SAP. The layout is the same for the audit trail table except the status is a part of the key. All SAP tables must have a unique key and that status will make the original and corrected records have different keys. The depreciation area table does not have a corresponding audit trail table.

Error Messages

The SAP error message table is used to hold the error messages. Message class ZA has been defined for the Fixed Assets user defined messages. This table has multiple language capability.

The following diagram illustrates the overall flow of the ECF process. Included in the diagram are control points, highlighted in red. Following the diagram is a description of the control points.

Below the diagram and control points are descriptions of each of the ECF functions. The functions are grouped into five major parts, the red shaded box representing the function to insert errors, the computer terminal representing the dialog screens, the blue shaded boxes representing the reprocessing of errors, and the green shaded box representing the archiving of audit trail information.

Control Points	Specific Control Point?	Description
1a	No	<ul style="list-style-type: none"> • Authorizations.
ECFC2a	YES	<ul style="list-style-type: none"> • Authorization by Country
ECF4b1	Yes	<ul style="list-style-type: none"> • An audit table will contain copies of every record (original and final) plus the person who last changed it.
ECF3b1	Yes	<ul style="list-style-type: none"> • Bridge program startup: for regular runs do a sequence check and verify that bridge status = 'not run'. For restarts do a sequence check and verify that bridge status = 'run'.
ECF3b2	Yes	<ul style="list-style-type: none"> • An ASCA report should provide ASCA totals. ASCA totals must be compared to details created by bridge. After ASCA program completion (good counts) the sequence number should be updated and the status set to 'not run'.
ECF3c1	Yes	<ul style="list-style-type: none"> • Archive process startup: for regular runs verify that bridge status = 'not run'. For restarts verify that bridge status = 'run'.
ECF3b3	Yes	<ul style="list-style-type: none"> • An ASCA report should provide totals for the ECF archive process. The report should include counts of the records in each of the tables before and after the archive is run tied out against the number of records extracted and archived.
ECF3c3	Yes	<ul style="list-style-type: none"> • A control record is put on the top of the outbound archive file.

Function BF10 is called by any controller that needs to write records to the ECF error tables. In cases where a

controller must write multiple records, it must call this function once for each record to be written to ECF. BF10 performs one of the following four operations based on parameters passed to it

- Creates a new record in ECF and the ECF audit tables. This is for the case when an error is first produced by the bridges.
- Update the record in the ECF table. This is for the case when an ECF reprocess of an error fails again. The error message and the derived fields are updated with the new values generated by the rerun.
- Delete the record in the ECF table and insert it into the ECF audit table. This is for the case when a record has been successfully reprocessed and it needs to be moved to the audit trail table.
- Delete both the ECF and audit trail record. This is for the case when a rerun of a process controller record makes it through the process controller, but one of the resulting SAP transactions fails. The process controller record is deleted from both tables and the transaction error records are inserted in its place.

Edits/Enrichments

The status field must contain a value in the following list

'ECNSKRAP'

The status field on successfully processed transactions has to be mapped to a new value based on it's original value in the ECF table prior to the ECF run. The following mapping occurs on all records

Status in ECF prior to ECF run	New Status in ECF or ECF Audit
C - Changed by a user	K - Changed by a user and successfully rerun
E - Not changed by a user	R - Not changed by a user and successfully rerun
N - Not yet run	S - Successfully processed on the first try

Note that successfully processed records could remain in the ECF tables in the case of transaction records. This happens when a transaction is successfully processed, but a subsequent transaction in the set fails.

Dependencies

Stable field lists for all controllers and transactions.

Output

ECF and ECF audit trail tables

Exceptions, Errors & Handling

If a failure occurs in writing to the ECF error tables the bridge program shouldabend. The error message should indicate what table and what the key of the record was at the time of the failure. ECF must be capable of restarting at the point of failure once the problem is corrected.

A set of dialog screens are used to view and modify ECF records. An ECF Table Selection Screen, linked to user defined transaction code ZAEC, displays a list of all ECF tables. Selecting a table on this screen transfers control to view/update screens for that table. All view/update screens are generated by the SAP View Maintenance Generation Tool. The basic functions provided by the SAP generated screens are:

- Ability to view/update selected fields for a set of records on one screen, called an Overview Screen.
- Ability to view/update all fields for one record on a single screen, called a Detail Screen.
- Ability to select records based on the contents of any or all fields.
- Ability to purge all selected records.
- Ability to perform a mass change on a field in all selected records.
- Ability to dynamically create an on-line report containing any or all fields in all selected records.
- Ability to print the report or download it to a file.

ECF Table Selection Screen

The ECF Table Selection screen contains a list of all ECF tables. Each table is associated with a radio button. Users will select one of the tables by depressing the radio button that corresponds to the table, then pressing one of the push-buttons. The following is a list of the push-button and their functions.

- View - displays the entire contents of the selected table in view only mode.
- Edit - displays the entire contents of the selected table in edit mode.
- Selection for View - displays selected rows of the selected table in view only mode. Prior to displaying the contents of the table, the user can enter selection criteria in a pop-up window.
- Selection for Edit - same as Selection for View, but in edit mode.
- Cancel - exit the ECF Table Selection Screen.

If any of the options other than Cancel are pressed, the Overview screen for the selected table is then displayed.

To provide for access to data based on the country or countries a user supports, authorization objects will be needed to specify the country or countries to which the user has access. The table selection screen will access the authorization object to determine the allowable countries. Then, prior to calling the view maintenance dialog for the selected table, it populates the countries as selection criteria in a table passed to the view maintenance function.

This table is used to select and present only the countries authorized.

Overview and Detail Screens

The SAP View Maintenance Generation Tool can generate two screens for each table. These screens are called Overview and Detail Screens.

The Overview Screen generated by the SAP View Maintenance Generation Tool provides view/update capability of all eligible fields from the selected table and rows. The fields are presented horizontally across the screen, one row for each error record. This is similar to the way a spreadsheet is displayed.

The Detail Screens generated by the SAP View Maintenance Generation Tool provides view/update on a single record. All fields are displayed on one screen

Screen Customization

To provide additional functions to the users, the generated screens/programs are customized in the following manner:

- All screens (both ECF and audit table screens) will be modified based on the data content required for each screen as well as formatting the screen so that all field labels and data elements are aligned into columns.

- For the Capitalization, Transfer, Retirement, and WIP tables, a function will be executed to dequeue the table prior to screen display. The SAP generated code will enqueue the table whenever a user accesses it in write mode. Dequeueing the table will allow multiple users to access the table in write mode.
Note: if two users are in write mode at the same time and both update the same record, the last one to save the data will have their changes saved.
- Authority checks will be made to ensure the user has access to view or update the ECF table selected.
- After a user presses "Enter" or executes any function on the screen, all rows will be checked to see if the row has been modified. For each modified row a "C" will be put into the ECF status field, the change userid field will be updated with the logon userid, and the change date and time fields will be updated with the system date and time. Additionally, a check will be made to see if the status field was modified by the user. If so, the value they entered on the screen will not be overlaid by the "C". This allows a user to change the "C" on a record to "P" or "E" without having it changed to "C".
- When a user selects "Save", any row they modified since the last time they saved their data will be checked against the current contents of the ECF table to see if that row has been deleted from the table by another user or by the batch process. If so, that row will be removed from the user's session. This is done because the standard SAP screen functions would re-insert the row back into the table in this case. A re-insert of a row deleted by the batch process would make the batch process fail the next time it ran.

The following sections list the fields displayed on the controller ECF screens by type. An * following the field indicates that it is non-modifiable. The transactions screens are not listed separately since they contain all fields passed to the transaction function module and all fields are modifiable.

Capitalizations, including Posting to WIP

- Country*
- Controlling Area*
- Feeder Source Code*
- Bridge Sequence Number*
- File Record Number*
- ECF Status
- Original Date/Time*
- Change Date/Time*
- Change Userid*
- Message*
- Cap. Type
- Machine Type
- New Mach Type
- Model
- New Model

- Asset Serial (with an 'X' in position 18)
- Fiscal Depr. Life Yrs.
- Fiscal Depr. Life Periods
- WT Depr. Life Yrs.
- WT Depr. Life Periods
- Local Language Desc.
- English Description
- ~~IBM Equipment Category~~ Replaced by Usage code
- New/Used Indicator
- Domestic/Foreign Indicator (hide)
- Property Indicator
- Responsible Cost Center
- Employee Serial
- Customer Number
- ~~Location/Building~~ Replaced by Worklocation / Building (two fields)
- Vendor
- AAS Status Code
- Contract Type
- Quantity
- Transaction Type
- Posting Date
- Asset Value Date
- Document Date
- Ref. Doc. Number
- AP Reversal Ref*
- AP IntOrd*
- Vat percent*
- Posting Amount*
- Posting Sign

- Amount in Alt. Currency*(hide)
- Supplier
- Intransit LC
- Intransit Div
- Intransit G/L Account
- Cost Element
- Project
- Sub-Project
- Capital Investment Order
- Order Number
- Purchase Order Line Item
- IGS PROJECT NUMBER
- Ship to ZIP code
- Loaner Number
- external purchase indicator
- Bypass Caplimit check (zzmincapo)

Capitalizations Overview Screen

Country/Controlling Area	Country/Controlling Area
FSC	Feeder Source Code
BRS	Bridge Sequence Number
BR Rec..	Bridge Record Number
E	ECF Status
Ref. Doc. #	Reference Document Number
Machine Type	Machine Type
Asset Serial	Asset Serial #
Cap. Inv. Order	Capital Investment Order
Project	Project
Sub	Sub-Project
C	Cap. Type
R (Rental Indicator)	change to Usage Code
Posting Amount	Posting Amount
D	Debit/Credit Sign

Transaction	Transaction Type
Resp. Cost Center	Responsible Cost Center
Customer #	Customer #
Employee Serial	Employee Serial
Intransit LC	Intransit Ledger Code
Intransit Div	Intransit Division
Intransit Acct	Intransit Account
Acct. 1/Cost El.	Account 1/Cost Element (was Line Item 1)
Order Number	Order Number
Asset Value Date	Asset Value Date
Posting Date	Posting Date
Orig. Run Date	Original Run Date
Change Date	Change Date
Change Userid	Change User ID
Message Text	Message Text

Redacted

pool's screen(s)

List field info and/or flow logic for a fn module

1

Screen Info for SAPLZAES 0011 -- Viewpflege: Detailbild

ZAVECFCAPS

Fullscreen

```

.....10.....10.....30.....40.....50.....60.....70.....80.....90.....100..
...+..110.....+.|
-----
| 001 | -ECF Control Data-----
-----
| 002 || Cntry/Cont Area _____ Orig Date/Time _____
|      |      |
| 003 || Fsc/Bsn/Brn _____ ChangeDate/Time _____
|      |      |
| 004 || ECF Status _____ Change Userid _____
|      |      |
| 005 || Message Text _____
| 006 |-----> | |
-----
| 007 | -Asset Master Data-----
-----
| 008 || Cap Type _____ Cap Usage _____ Resp. cost cent _____
|      |      |
| 009 || Machine Type _____ New Mach Type _____ New/Used Indic _____ Employee Serial _____
|      |      |
| 010 || Model _____ New Model _____ Property indic. _____ Customer Number _____
|      |      |
| 011 || Asset Serial _____ ITG Skip Indic. _____ IGS-Project _____

```


Redacted

012	FI Life/Yrs/Per	_____	Ext.pur.Indic.	_____	Vendor Number	_____
013	WT Life/Yrs/Per	_____			Loaner Number	_____
014	Local Lang Desc	_____			AAS Stat. Code	_____
015	English Descr	_____			Contract Type	_____
	WorkLoc/Buildg	_____			Quantity	_____
	Ship to zip	_____				
016	-----					
017	-Posting Data	-----			-Capital Tracking Data	-----
018	TransactionType	_____			Project	_____
019	Byp.caplrm.chk	_____			Sub-project	_____
	Posting date	_____			Cap Invest Ord	_____
020	Asset val. date	_____			LineItem 1 Acct	_____
021	Document Date	_____			Order Number	_____
022	Ref Doc Number	_____			Ord Nm Line Itm	_____
023	VAT percentage	_____				
024	Posting Amount	_____				
025	Supplier	_____			-Reference Data	-----
026	Int LC/Div/Acct	_____			Reversal reference	_____
027		_____			AP Order Number	_____
028		_____				
029	-----					
030	-----					
031	-----					
032	-----					

ZAWECFPB01:

field info and/or flow logic for a fn module pool's screen(s)

List

1

Transfers Screen

- Country Code*/Controlling Area*
- Feeder Source Code*
- File Sequence Number*
- File Record Number*
- ECF Status

- Original Run Date/Time*
- Change Date/Time
- Change Userid
- Serial Number (with an 'X' in position 18)
- Machine Type*(Pos. 1-4 of Inventory Number)
- Asset Serial*(positions 5-25 of Inventory Number)
- Asset Val. Date
- Posting Date
- To Cust Number
- To Asset Class
- New Inv. Number
- ToResp Cost Centr
- Reference Doc
- Employee Serial
- Vendor Number
- ~~Location/Building~~ location and bldg are 2 separate fields and TXJCD field will not be an input only derived.
- Local Lang Desc
- PCF Usage Code
- Model
- Contract Type
- AAS Stat Code
- IGS project code
- To cost center
- Asset super #
- Manufacturer
- OEM Model/serial
- Comments
- Contractor serial #
- Location type

- Work location code
- IBM bldg #
- Floor/Rm
- Loaner #

Transfer Overview Screen

Cntry/Con Area	Country/Controlling Area
FSC	Feeder Source Code
BSN	Bridge Sequence Number
BRN	Bridge Record Number
ECF Status	ECF Status
Serial Number	Serial Number
Inventory Number	Inventory number
ToRespCostCentr	To responsible cost center
To Cust Number	To Customer Number
To Asser Class	To asset class
New Inv Number	New Inventory number
Asset Val. date	Asset value date
Posting date	Posting date
Reference doc.	Reference document
Vendor Number	Vendor Number
Employee Serial	Employee Serial Number
Location/Buildg**	Location / Building**
Local Lang. Desc.	Local Language Description
PCF Usage Code**	PCF usage code**
Model	Model
AAS Stat.code	AAS status code
Contract type	Contract type
Project	IGS project code
To Cost center	To Cost center
Location Type	Location type
Wk Loc code	Work Location code
IBM BLDG	IBM Building Number
Loaner Num	Loaner Number

|10.....+...10.....+...30.....+...40.....+...50.....+...60.....+...70.....+...80.....+...90.....+...100..

| 001 | -ECF Control Data-

| 002 || Cntry/Cont Area _____

Orig Date/Time _____

| 003 || Fsc/Bsn/Brn _____

ChangeDate/Time _____

004	ECF Status	_____	Change Userid	_____
005	Message Text	_____		
006	-----			
007	-Current Asset Data-----			
008	Serial number	_____		
009	Inventory no.	_____		
010	Resp CostCenter	_____		
011	Profit Center	_____		
012	English Descr	_____		
013	-----			
014	-Transfer To Target Information-----			
015	ToRespCostCentr	_____	Asset val. date	_____
016	To Cust Number	_____	Posting date	_____
017	To Asset Class	_____	To Profit Ctr	_____
018	New Inv Number	_____	To Company Code	_____
019	To Cost Center	_____		
020	To Project	_____		
021	-----			
022	-Asset/Accounting Information Changes-----			
023	Reference doc.	_____	PCF Usage Code	_____
024	Vendor Number	_____	Loaner Number	_____
025	Employee Serial	_____	Model	_____
026	WK Location	_____	AAS stat code	_____
027	IBM BLDG	_____	Contract type	_____
028	Location type	_____		
029	Local Lang Desc	_____		
030	-----			

Retirements Overview Screen

Cty	Country
CO Area	Controlling Area
FSC	Feeder Source Code
BR Seq	Bridge Sequence Number
BR Rec..	Bridge Record Number
ECF Status	ECF Status
Serial Number	Serial Number
Inventory Number	Inventory Number
Transaction Type	Transaction Type
Asset Sub No.	Asset Subnumber
Ref. Doc. Number	Reference Document Number
Asset Value Date	Asset Value Date
Posting Date	Posting Date
Revenue Amount	Revenue Amount
Export to Country	Export to Country
Message Text	Message Text

Retirements Screen

- Country Code*
- Controlling Area*
- Feeder Source Code*
- File Sequence Number*
- File Record Number*
- ECF Status
- Original Run Date/Time*
- Change Date/Time
- Change Userid
- Machine Type*
- Machine Serial*(only positions 5-25)
- Transaction Type
- Asset Sub-Number
- Reference Doc Number
- Asset Value Date
- Message Text*
- ECF Compl Date
- Serial Number (with an 'X' in position 18)
- Selection Indicator*
- Revenue Amount
- Export to country
- Posting Date

Projects Screen - The same changes apply to the Audit Trail Table

- Country Code*
- Controlling Area*

- Company Code*
- Feeder Source Code*
- File Sequence Number*
- File Record Number*
- ECF Status
- Original Run Date/Time *
- Change Date/Time*
- Change Userid
- Message Text
- Sub-project description
- Project description
- Project
- Sub-project #
- Project Type (now updateable - was not previously)
- Cap Invest Ord
- Order Type
- Settlement CE
- Release Quarter
- Project Manager
- Organization
- Program
- Responsible Cost Center
- Estimated Start Date
- Estimated Complete Date
- New Sub-project #
- Settlement CE
- Cost Element
- Document Type*
- Amount

- Due On
- Requisition #
- Requisition Line item #
- Document Date
- Purchase Order #
- Purchase Order line item #
- Target Machine type
- Complete Funds Reserv
- Close Order*
- Re-open Order*
- Expense %
- Taxability Ind*(and on transaction KO01 and KO02)
- Tax Rate Code* (and on transactions KO01 and KO02)
- Orig est cost*
- Industry Code (and on transaction KO01 and KO02)
- Tech/Brand (and on transaction KO01 and KO02)
- Product/Family (and on transaction KO01 and KO02)
- Tracking info* (and on transaction FMZ1)
- Requester* (and on transaction FMZ1)
- Released Budget* (and on transaction KO22)
- Order Status

Current Detail Screen

```

-----
|
| .....10.....110.....30.....40.....50.....60.....70.....80.....90.....100..
| ..+.110|
|
|-----
| 001 | -ECF Control Data-----
|
| 002 || Cntry/Cont Area _____ Orig Date/Time _____ |
|
| 003 || Fsc/Bsn/Brn _____ ChangeDate/Time _____ |
|
| 004 || ECF Status _____ Change Userid _____ |
|
| 005 || Message Text _____>|

```

006	-----			
007	-Project Data-----			
008	Project	_____		
009	Project desc	_____		
010	Project Type	-		
011	Project Manager	_____		
012	Cost center	_____		
013	RespCctr	_____		
014	Organization	_____		
015	Program	_____		
016	-----			
017	-Sub Project Data-----			
018	Sub-project	_____		
019	Sub proj desc	_____		
020	Cap Invest Ord	_____		
021	Order type	_____		
022	Estim. Start Date	_____		
023	Estim. Compl. Date	_____		
024	Release Quarter	_____		
025	Estim. costs	_____		
026	Target Machine	_____		
027	Percent	____, ____		
028	Close order?	-		
029	Re-open order?	-		
030	New Sub-project	_____		
031	-----			
032	-Commitments Data-----			
034	Document date	_____		
035	Due on	_____		
036	Req. Number	_____	Req Nm Line Itm ____	
037	Order Number	_____	Ord Nm Line Itm ____	
038	Complete Funds?	-		
039	Amount	_____		
040	Settlement CE	_____		
041	-----			

Proposed Changes (not yet done) The same changes apply to the Audit Trail Table

.....10.....+...10.....+...30.....+...40.....+...50.....+...60.....+...70.....+...80.....+...90.....+...100..			
...+...110			

001	-ECF Control Data-----		
002	Cnty/Cont Area	_____	Orig Date/Time _____
003	Fsc/Bsn/Brn	_____	ChangeDate/Time _____
004	ECF Status	_____	Change Userid _____
005	Message Text	_____>	
006	-----		
007	-Project Data-----		
008	Project	_____	
009	Project desc	_____	
010	Project Type	_____	
011	Project Manager	_____	
012	Cost center	_____	
012	Co Code	_____	
013	RespCctr	_____	
014	Organization	_____	
015	Program	_____	
	Industry Code	_____	
	Tech/Brand	_____	
	Product Family	_____	
016	-----		
017	-Sub Project Data-----		
018	Sub-project	_____	
019	Sub proj desc	_____	
020	Cap Invest Ord	_____	
021	Order type	_____	Order Status _____
022	Estim. Start Date	_____	
023	Estim. Compl. Date	_____	
024	Release Quarter	_____	
025	Estim. costs	_____	Budget _____
026	Target Machine	_____	Taxability Ind _____
027	Percent	_____,____	Tax Rate Code _____
028	Close order?	_____	
029	Re-open order?	_____	
030	New Sub-project	_____	
031	-----		
032	-Commitments Data-----		
033	Document Type	_____	Tracking info _____

034	Document date	_____	Requester	_____	
035	Due on	_____			
036	Req. Number	_____	Req Nm Line Itm	_____	
037	Order Number	_____	Ord Nm Line Itm	_____	
038	Complete Funds?	_____			
039	Amount	_____			
040	Settlement CE	_____			
041	-----				

Document Type, Order Status, Tracking info, and Requester should not be updateable

Project Overview Screen

Country/Controlling Area	Country/Controlling Area
Company Code	Company Code
FSC	Feeder Source Code
BRS	Bridge Sequence Number
BR Rec..	Bridge Record Number
E	ECF Status
Project Type	Project Type
Project	Project
Sub-project	Sub-project
Cap Invest Ord	Capital Investment Order
Order Type	Order Type
Amount	Amount
Project desc	Project description
Sub proj desc	Sub-project description
Cost center	Cost Center
Cost element	Cost element
Req. Number	Requisition Number
Req Nm Line Itm	Requisition Number Line item
Order Number	Order Number
Ord Nm Line Itm	Order Number Line item
Estim. Start Date	Estimated Start Date
Estim. Compl. Date	Estimated Completion Date
Release Quarter	Release Quarter
Message Text	Message Text

Fullscreen

Current Layout

```

-----
| .....+...10.....+...10.....+...30.....+...40.....+...50.....+...60.....+...70.....+...80.....+...90.....+...100..
| .....
|-----
| 001 | -ECF Control Data-----
|-----
| 002 | | Cntry/Cont Area _____ Orig Date/Time _____
| 003 | | Fsc/Bsn/Brn/Tsn _____ ChangeDate/Time _____
| 004 | | Status _____ Change Userid _____
| 005 | | BusinessProcess _____
| 006 | | Message Text _____>|
|-----
| 007 | -----
| 008 | -Order Master Data-----
|-----
| 009 | | Order _____ Company code _____
| 010 | | Project _____ Resp CostCenter _____
| 011 | | Sub-project _____ Cost center _____
| 012 | | Order type _____ Profit Center _____
| 013 | | Est Start Date _____ Organization _____
| 014 | | Est Compl Date _____ Program _____
| 015 | | InvestProfile _____ Release Quarter _____
| 016 | | Estim. costs _____ Project Manager _____
| 017 | | Percent _____ Target Machine _____
| 018 | | TransactionCode _____
| 019 | | Short text _____
| 020 | -----
|-----

```

Fullscreen

Proposed Layout

.....			
.....+...10.....+...10.....+...30.....+...40.....+...50.....+...60.....+...70.....+...80.....+...90.....+...100..			
.....			
001 -ECF Control Data- 			
002	Cntry/Cont Area	_____	Orig Date/Time _____
003	Fsc/Bsn/Brn/Tsn	_____	ChangeDate/Time _____
004	Status	_____	Change Userid _____
005	BusinessProcess	_____	
006	Message Text	_____	
.....			
007		
008 -Order Master Data- 			
009	Order	_____	Company code _____
010	Project	_____	Resp CostCenter _____
011	Sub-project	_____	Cost center _____
012	Order type	_____	Profit Center _____
013	Est Start Date	_____	Organization _____
014	Est Compl Date	_____	Program _____
015	InvestProfile	_____	Release Quarter _____
016	Estim. costs	_____	Project Manager _____
017	Expense Part in %	____/____	Target Machine _____
	Industry Code	_____	Order Status _____
	Tech/Brand	_____	Tax Rate Code _____
	Product Family	_____	Taxability Ind _____
	TransactionCode	_____	
	Short text	_____	
020		

Screen Info for SAPLZAES 0311 -- Viewpflege: Detailbild

ZAVECFK002

Fullscreen

Current Screen - Update Internal Order

.....			
.....+...10.....+...10.....+...30.....+...40.....+...50.....+...60.....+...70.....+...80.....+...90.....+...100..			
.....			

001	-ECF Control Data-----	
002	Cntry/Cont Area _____	Orig Date/Time _____
003	Fsc/Bsn/Brn/Tsn _____	ChangeDate/Time _____
004	Status _____	Change Userid _____
005	BusinessProcess _____	
006	Message Text _____	
007	----->	
008	-Order Master Data-----	
009	Order _____	Company code _____
010	Project _____	Resp CostCenter _____
011	Sub-project _____	Cost center _____
012	Order type _____	Profit Center _____
013	Est Start Date _____	Organization _____
014	Est Compl Date _____	Program _____
015	InvestProfile _____	Release Quarter _____
016	Estim. costs _____	Project Manager _____
017	Percent _____	Target Machine _____
018	Re-open order? _____	TransactionCode _____
019	Close order? _____	
020	Short text _____	
021	-----	

Fullscreen KO02

Suggested Screen - The same changes apply to the Audit Trail Table

001	-ECF Control Data-----	
002	Cntry/Cont Area _____	Orig Date/Time _____
003	Fsc/Bsn/Brn/Tsn _____	ChangeDate/Time _____
004	Status _____	Change Userid _____
005	BusinessProcess _____	
006	Message Text _____	

>					
007		-----			
008		-Order Master Data-----			
009		Order	_____	Company code	_____
010		Project	_____	Resp CostCenter	_____
011		Sub-project	_____	Cost center	_____
012		Order type	_____	Profit Center	_____
013		Est Start Date	_____	Organization	_____
014		Est Compl Date	_____	Program	_____
015		InvestProfile	_____	Release Quarter	_____
016		Estim. costs	_____	Project Manager	_____
017		Expense part in %	____,____	Target Machine	_____
018		Re-open order?	_____	TransactionCode	_____
019		Close order?	_____	Taxability Ind	_____
020		Order Status	_____	Tax Rate code	_____
		Industry Code	_____		
		Tech/Brand	_____		
		Product Family	_____		
021		Short text	_____		
022		-----			

Screen Info for SAPLZAES 0161 -- Viewpflege: Detailbild

ZAVECFFMZ1

Fullscreen

Current layout of Screen (old CJO1)

.....+.....10.....+.....10.....+.....30.....+.....40.....+.....50.....+.....60.....+.....70.....+.....80.....+.....90.....+.....100..	

001	-ECF Control Data-----
002	Country _____ Orig Date/Time _____

003	Fsc/Bsn/Brn/Tsn	_____	ChangeDate/Time	_____
004	Status	_____	Change Userid	_____
005	BusinessProcess	_____		
006	Message Text			
>				
007	-----			
008	-Commitment Data-----			
009	Project	_____		
010	Sub-project	_____		
011	Text	_____		
012	Document date	_____		
013	Company code	_____		
014	Order	_____		
015	Cost element	_____		
016	Amount	_____		
017	Due Date	_____		
018	Cost center	_____		
019	-----			

Screen Info for SAPLZAES 0161 -- Viewpflege: Detailbild

ZAVECFFMZ1

Fullscreen

Proposed layout of Screen - The same changes apply to the Audit Trail Table

+...10....+...10....+...30....+...40....+...50....+...60....+...70....+...80....+...90....+...100..

001	-ECF Control Data-----
002	Country/Cont Area _____ Orig Date/Time _____
003	Fsc/Bsn/Brn/Tsn _____ ChangeDate/Time _____
004	Status _____ Change Userid _____
005	BusinessProcess _____
006	Message Text _____
>	
007	-----
008	-Commitment Data-----
009	Project _____
010	Sub-project _____

036	Req. Number	_____	Req Nm Line Itm	_____
037	Order Number	_____	Ord Nm Line Itm	_____
xxx	Order Type	_____		
011	Text	_____		
012	Document Type	_____		
013	Document date	_____		
014	Company code	_____		
015	Order	_____		
016	Cost element	_____		
017	Amount	_____		
018	Due on	_____		
019	Cost center	_____		
020	Tracking info	_____		
021	Requester	_____		
022	-----			

Document Type, Tracking info, order type and Requester should not be updateable

Screen Info for SAPLZAES 0171 -- Viewpflege: Detailbild

ZAVECFFMZ2

Fullscreen

Current Layout (CJO2)

```

-----
|...+...10...+...10...+...30...+...40...+...50...+...60...+...70...+...80...+...90...+...100..
|
-----
| 001 | -ECF Control Data-----
| 002 | | Country          _____ Orig Date/Time _____
| 003 | | Fsc/Bsn/Brn/Tsn _____ ChangeDate/Time _____
| 004 | | Status          _____ Change Userid  _____
| 005 | | BusinessProcess _____
| 006 | | Message Text          _____ > ||
| 007 | -----
| 008 | -Commitment Data-----
| 009 | | Project          _____ |
| 010 | | Sub-project      _____ |

```


011	Text	
012	Document number	
013	Document item	
014	Company code	
015	Overall amount	
016	Complete Funds?	
017	Due on	
018	-----	

Screen Info for SAPLZAES 0171 -- Viewpflege: Detailbild

ZAVECFFM22

Fullscreen

Proposed Layout - The same changes apply to the Audit Trail Table

```

-----
|...+...10...+...10...+...30...+...40...+...50...+...60...+...70...+...80...+...90...+...100..
-----
| 001 | -ECF Control Data-----
| 002 | Country/Cont Area      Orig Date/Time
| 003 | Fsc/Bsn/Brn/Tsn      ChangeDate/Time
| 004 | Status                Change Userid
| 005 | BusinessProcess
| 006 | Message Text
| 007 | -----> ||
| 008 | -Commitment Data-----
| 009 | Project
| xxx | Order Type
| 010 | Sub-project
| 012 | Document number
| 013 | Document Type
| 036 | Req. Number      Req Nm Line Itm
| 037 | Order Number      Ord Nm Line Itm
| 014 | Document item
| 015 | Company code
| 016 | Overall amount
| 017 | Complete Funds?
| 018 | Due on

```

Document Type and order type and amount should not be updateable

Fullscreen (old CJO4)

```

.....10....+...10....+...30....+...40....+...50....+...60....+...70....+...80....+...90....+...100...
-----
| 001 | -ECF Control Data-----
|-----
| 002 | | Country          _____ Orig Date/Time _____
|-----
| 003 | | Fsc/Bsn/Brn/Tsn  _____ ChangeDate/Time _____
|-----
| 004 | | Status           _____ Change Userid  _____
|-----
| 005 | | BusinessProcess  _____
|-----
| 006 | | Message Text     _____
|-----
| 007 | ----->| |
|-----
| 008 | -Committment Data-----
|-----
| 009 | | Company code     _____
|-----
| 010 | | Document item    _____
|-----
| 011 | | Document number  _____
|-----
| 012 | | Document Date    _____
|-----
| 013 | | Compln ind.      _____
|-----
| 014 | | ReversalAmount   _____
|-----
| 015 | | Redn text        _____
|-----
| 016 | -----
|-----

```

Fullscreen

.....10.....+.....10.....+.....30.....+.....40.....+.....50.....+.....60.....+.....70.....+.....80.....+.....90.....+.....100.....

001	-ECF Control Data-----	
002	Country/Cont Area _____	Orig Date/Time _____
003	Fsc/Bsn/Brn/Tsn _____	ChangeDate/Time _____
004	Status _____	Change Userid _____
005	BusinessProcess _____	
006	Message Text _____	
007	----->	
008	-Committment Data-----	
009	Company code _____	
010	Document item _____	
037	Order Number _____	Ord Nm Line Itm _____
011	Document number _____	
012	Document Date _____	
013	Compln ind. _____	
014	ReversalAmount _____	
015	Redn text _____	
016	-----	

Proposed Layout Transaction KO22 - The same changes apply to the Audit Trail Table

.....10.....+...10.....+...30.....+...40.....+...50.....+...60.....+...70.....+...80.....+...90.....+...100..		
001	-ECF Control Data-----	
002	Country/Cont Area _____	Orig Date/Time _____
003	Fsc/Bsn/Brn/Tsn _____	ChangeDate/Time _____
004	Status _____	Change Userid _____
005	BusinessProcess _____	
006	Message Text _____	
007	----->	
008	Order _____	
	Order type _____	
	Company Code _____	
009	Fiscal Year _____	
010	Budget _____	

Release Notes

Release 2.2

For Project errors from Commitments do a look-up of 'Order Type' before placing the record into ECF table and populate the field 'Order type'

Reporting/Printing

Both the overview and detail screens provide print capability. Complete flexibility in both record selection criteria and fields to print on the report is provided by the SAP screens. No additional function is needed.

Input

ECF Tables

Edits/Enrichments

No edits will be performed on any data modified by the user. Validations occur when the error is reprocessed.

Dependencies

The final list of transactions and fields supported by ECF is determined based on the final content of the controllers and transactions supported by inbound bridging.

Output

ECF Tables

Exceptions, Errors & Handling

Any errors that occur will generate an error message to the screen.

Scheduled batch programs extract and resubmit the records from the ECF tables. There is one program for each of the Process Controller errors and one program for Transaction Controller errors. These programs select records based on an input parameter indicating whether to select all records or those with a status of "Corrected".

Steps Required to Reprocess Error Records

1. Extract all records based on input parameter indicating whether to select all records or just changed records.
 - When selecting all records, the extract process must NOT select any records with a status of A (automatically routed to ECF by the bridge). Any records sent to ECF by a bridge program must not be rerun unless a user changes the status. This is done because the controller does not have the logic that caused the record to be bypassed and could improperly reprocess the record .
 - When selecting changed records, the extract process must select any records with a status of C (changed by a user) or a status of P (user wants the record purged).

Each of the Process Controller tables/records are processed individually. The Transaction Controller tables are processed as a set, with a set of records being related based on country, feeder source code, bridge sequence number and bridge record number, thus grouping together a set of transactions which were generated by the same input record. When executing a "changed only" run of transaction records the extract program must be sure to extract the entire set of transactions, not just the one with the "Corrected"

status. A user will only change the transaction that was in error, but the entire set must be extracted and sent to the Transaction Controller for reprocessing.

1. For all of the records read from the ECF tables accumulate and insert into the ASCA control table the input record count, and if the record has a process type of "CAP", accumulate the amount also. Use the sum of the posting amounts in all of the records for this amount field.
2. For each record read from the ECF tables the following processing flow is followed:
 - If the record has a "P" status, call BF10 to move the record from the ECF table to the audit trail table. Then insert a record in the ASCA detail table with a result of "P".
 - If the record does not have a "P" status:
 - Insert a record into the ASCA detail table, leaving the result field blank. Also leave the order number and profit center blank so that the ASCA control report will accumulate all records into a single entry on the cap control report.
 - Call the associated Controller to reprocess the record. If reprocessing transactions, first insert a set of records with the same record number into the transaction table and call the Transaction Controller to reprocess the transactions. The Transaction Controller will bypass any transactions that have a system message number which indicates the transaction was successfully processed and start processing at the failed transaction.
 - Update the appropriate ECF tables, and, if necessary, the corresponding ECF Audit tables to reflect the reprocessing of the transaction:
 - If the record or records were successfully processed update the message fields to indicate successful completion and move the record from the ECF tables to the ECF Audit tables.
 - If reprocessing a Process Controller record and it failed again in the Process Controller, or if reprocessing transactions and one of the transactions failed again, then update the message and the derived fields in the ECF tables to reflect the new message and status for each transaction.
 - If reprocessing a Process Controller record and it then fails in the Transaction Controller, delete the Process Controller record and insert the transaction records in the ECF tables. The record should also be deleted out of the appropriate Process Controller Audit Trail table.
3. Once processing is complete on all selected ECF records, schedule the ASCA control report programs to create the control reports from the ASCA tables.

The following design documents can be referenced to determine how to call the various bridge functions needed by the ECF Controller.

- Capitalization Controller
- Transfer Controller
- Retirement Controller
- Project Controller
- Transaction Controller

Exceptions, Errors and Handling

- If the ECF table cannot be read, an error should be generated to the SAP job log and the program terminated.
- If any of the ECF or ASCA tables cannot be updated after successful completion of the record into SAP, an error should be generated to the SAP job log and the program terminated. All of the tables within the scope of a single input transaction should be updated in the same unit of work so that they stay in synch with each other.
- The Controllers could also issue abends which would terminate the job.
- Similar restart logic used by all bridges and incorporated into the common restart routine should be used for restarting jobs which abend.

Source Structure

N/A

ASCA

Control Reports and Control Points

Control totals must be produced which include records extracted from ECF, records successfully completed, records that ended up back into ECF, and records that were purged from ECF. The corresponding Process Controller control report programs should be used to generate these reports. In the case of transaction errors, the control report for retirements should be used.

A program is required that can be run as needed to reduce the amount of data being stored in the ECF Audit Trail table. To facilitate the use of this program a date will be set when the record was successfully processed into SAP and moved into the audit trail table. Therefore, until the record is corrected, this date will be blank. When running the archive process, an archive date parameter will be supplied. This parameter will be used to selectively purge from the ECF audit trail tables. All records corrected as of the archive date parameter to be archived. When dealing with transaction errors, if a record has been selected for archive all related records (records with a common ECF key) are selected as well.

All records selected to be archived will be removed from the table and inserted into four separate files, one each for caps, transfers, retirements and transactions. Records from all of the transaction tables will be merged into the same file and sorted so that a set of transactions will appear together in sequence. This file should be automatically sent to MVS, where it can be stored for potential use. The files should be generation data sets. Each file must have a control header using the SAP development generic format. It is not expected that users will use the archived data in MVS very much. It is being stored for historical purposes.

Archive Control Report

A control report is required for the Archive Process. The report must provide a totals by capitalizations, transfers, retirements and transactions. It should indicate the total number of records present in the ECF Audit Trail Table before the Archive Process, the total records archived, and the total records remaining after the archive program has been run. For example:

ECF Audit Trail Table Archive Process

Date: XX/XX/XXXX

Records Read

Capitalization Records	xxxxxx
Transfer Records	xxxxxx

Retirement Records	xxxxxx
Transaction Records	xxxxxx
Total Records Read	xxxxxxx

Records Archived	
Capitalization Records	xxxxxx
Transfer Records	xxxxxx
Retirement Records	xxxxxx
Transaction Records	xxxxxx
Total Records Archived	xxxxxxx

Records Remaining in Table	
Capitalization Records	xxxxxx
Transfer Records	xxxxxx
Retirement Records	xxxxxx
Transaction Records	xxxxxx
Total Records Remaining	xxxxxxx

Redacted

Jack Gonda on [REDACTED]
 Jack Gonda on [REDACTED]
 Vincent Formale on [REDACTED]
 Dean Stockwell on [REDACTED]
 Vincent Formale on [REDACTED]
 Tracey Santulli on [REDACTED]
 Dean Stockwell on [REDACTED]
 Annarose Rieth on [REDACTED]
 Derek Rutledge on [REDACTED]
 Thomas Feil on [REDACTED]
 Vincent Formale on [REDACTED]
 Margaret Graessle on [REDACTED]
 Annarose Rieth on [REDACTED]
 Tracey Santulli on [REDACTED]
 Robert Setzer on [REDACTED]
 Ann Mitchell on [REDACTED]
 Sharon Perun on [REDACTED]
 Dean Stockwell on [REDACTED]

EXHIBIT D

Redacted



Disclosure RSW8-2001-0163

Prepared for and/or by an IBM Attorney - IBM Confidential

Created By: Diana G Hill Created On: 12:19:33 PM

Last Modified By: Sim Brown Last Modified On: 09:29:14 AM

Required fields are marked with the asterisk (*) and must be filled in to complete the form.

*Title of disclosure (in English)

Tax Location Derivation Process

Summary

Status	Under Evaluation
Processing Location	RSW
Functional Area	Shander: Global Fixed Asset Process Software
Attorney/Patent Professional	Gregory Doudnikoff/Raleigh/IBM
IDT Team	Gregory Doudnikoff/Raleigh/IBM
Submitted Date	01:23:18 PM EDT
Owning Division	CHQ
Incentive Program	
Lab	
Technology Code	
PVT Score	No PVT score has been calculated. To calculate a PVT score, press the 'Calculate' button.

Inventors with a Blue Pages entry

Inventors: Sim Brown/Raleigh/IBM, Diana G Hill/Raleigh/IBM, Vincent Formale/Southbury/IBM

Inventor		Inventor		Manager Name
Inventor Name	Serial	Div/Dept	Phone	
> Brown, John S. (Sim)	832529	10/79QA	526-8705	Rossi, Deron J.
Hill, Diana	858633	10/79QA	526-8701	Rossi, Deron J.
Formale, V. (Vinny)	400692	10/73BX	376-3410	Lupinacci, Ernest J.

> denotes primary contact

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Company : Owns his own consulting business

codes only
- delete

TAKE off, per Brad Hack 2/24/02

Redacted

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Vestal, New York 13850
(607) 729-5894 (R)

1

5

IDT Selection

Select Functional Area

IDT Team: Gregory Doudnikoff/Raleigh/IBM	Attorney/Patent Professional: Gregory Doudnikoff/Raleigh/IBM
---	---

Response Due to IP&L [REDACTED]

***Main Idea**

10

1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of using the invention.

As part of Worldwide Fixed Asset System 2.2, a new method of determining an asset's physical location for US tax reporting purposes was devised. This methodology relies on a series of user-maintained tables that are referenced by a hierarchical program to derive an asset's physical location at the point of capitalization or transfer.

15

2. How does the invention solve the problem or achieve an advantage, (a description of "the invention", including figures inline as appropriate)?

The tax location derivation program performs a series of audits against the information included on the asset's incoming capitalization or transfer record. These audits check for the presence of specific information on the record. If that information is not found, the record is passed on to the next audit in the hierarchy until no additional checks can be performed. At that point, the record is sent to the error correction facility for manual correction by the operations team. If the audited information is found, that information is cross referenced against user maintained source tables to derive the asset's new tax location. This process of auditing and cross-referencing prevents erroneous location information from being added to the asset record. The previous tax location derivation often allowed incorrect location information to be posted to the asset record.

20

25

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?

Prior to the installation of this program, the derivation of an asset's physical tax location was reliant upon manual entries made by each of IBM's thousands of asset owners. If the asset owners failed to input the location information on a timely basis (most often the case), then a monthly back end derivation process was used to assign the asset to a 'default' location. This backend process did not reference the asset owner's location at all. Rather, the process relied on the department's or facility's location to determine the appropriate tax location of the asset. This derivation process was found to be inconsistent with IBM's asset ownership policies.

30

35

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.

This tax location derivation program was implemented as part of Worldwide Fixed Asset System 2.2 on [REDACTED]

40

***Critical Questions (Questions 1-9 must be answered in English)**

*Question 1

Redacted

On what date was the invention workable? **Redacted** Please format the date as MM/DD/YYYY
(Workable means i.e. when you know that your design will solve the problem)

*** Question 2**

Is there any planned or actual publication or disclosure of your invention to anyone outside IBM?

☐ Yes☒ No

If yes, Enter the name of each publication or patent and the date published below.

Publication/Patent:

Date Published or Issued:

Are you aware of any publications, products or patents that relate to this invention?

☐ Yes☒ No

If yes, Enter the name of each publication or patent and the date published below.

Publication/Patent:

Date Published or Issued:

*** Question 3**

Has the subject matter of the invention or a product incorporating the invention been sold, used internally in manufacturing, announced for sale, or included in a proposal?

☐ Yes☒ No

Is a sale, use in manufacturing, product announcement, or proposal planned?

☐ Yes☒ No

If Yes, identify the product if known and indicate the date or planned date of sale, announcements, or proposal and to whom the sale, announcement or proposal has been or will be made.

Product:

Version/Release:

Code Name:

Date:

To Whom:

If more than one, use cut and paste and append as necessary in the field provided.

*** Question 4**

Was the subject matter of your invention or a product incorporating your invention used in public, e.g., outside IBM or in the presence of non-IBMers?

☐ Yes☒ No

If yes, give a date. Please format the date as MM/DD/YYYY

*** Question 5**

Have you ever discussed your invention with others not employed at IBM?

☒ Yes☐ No

If yes, identify individuals and date discussed. Fill in the text area with the following information, the names of the individuals, the employer, date discussed, under CDA, and CDA #.

The code for the Tax Location Derivation program was written by Dilip Patel who was employed as a contractor for IBM until **Redacted**, when his contract expired. Mr. Patel's contact information is listed under the 'Inventors Without Bluepages Entries' section of this document. He was involved in the development of this product from **Redacted** through **Redacted**.

*** Question 6**

Was the invention, in any way, started or developed under a government contract or project?

☐ Yes☒ No☐ Not sure

If Yes, enter the contract number

Redacted

***Question 7**

Was the invention made in the course of any alliance, joint development or other contract activities?

- ☐ Yes
☒ No
☐ Not Sure

If Yes, enter the following:

Name of Alliance, Contractor or Joint Developer
Contract ID number
Relationship contact name
Relationship contact E-mail
Relationship contact phone

***Question 8**

Have you, or any of the other inventors, submitted this same invention disclosure or similar invention disclosure previously?

- ☐ Yes
☒ No

If Yes, please provide disclosure number below:

***Question 9**

Are you, or any of the other inventors, aware of any related inventions disclosures submitted by anyone in IBM previously?

- ☐ Yes
☒ No

If Yes, please provide the docket or disclosure number or any other identifying information below:

Question 10What type of companies do you expect to compete with inventions of this type? *Check all that apply.*

- ☒ Manufacturers of enterprise servers
☒ Manufacturers of entry servers
☒ Manufacturers of workstations
☒ Manufacturers of PC's
☒ Non-computer manufacturers
☒ Developers of operating systems
☒ Developers of networking software
☒ Developers of application software
☒ Integrated solution providers
☒ Service providers
☐ Other (Please specify below)

Question 11

If the invention relates to a product or service that is outside the scope of your business unit, please recommend IBM business unit(s), IBM location(s) or individual(s) within IBM that you think would provide a good evaluation of your invention:

Patent Value Tool (Optional - this may be used by the inventor and attorney to assist with the evaluation)
 (The Patent Value tool can be used by the inventor(s) to determine the potential licensing value of your invention.)

Redacted

No PVT score has been calculated. To calculate a PVT score, press the 'Calculate' button.

Market

What is the anticipated annual market size (in dollars) that will be captured by your invention?

CLAIMS

Question 1 - How new is the technical field?

Question 2 - How central is the invention to the product(s) which might be expected to contain the invention?

Question 3 - What is the scope of the claim?

PORTFOLIO NEED

What are the portfolio needs in the area of your invention?

EXPLOITATION & ENFORCEMENT

Question 1 - How easily can the use of the invention by a competitor be detected?

Question 2 - How easily can the use of the invention be avoided by a competitor?

BUSINESS VALUE

Question 1 - What percentage of the companies producing products in the field of this invention might use this invention?

Question 2 - What is the value of this patent to current or anticipated Alliance Activity between IBM and other companies?

Question 3 - What is the value of this patent to current or anticipated Technology Transfer Activity between IBM and other companies?

Question 4 - Does it result in prestige to IBM?

Post Disclosure Text & Drawings

Enter any additional information relating to this disclosure below:

(Form Revised 12/17/97)